SERVICE MANUAL

for
5180A & 5382A CTV

PAL/SECAM B/G/D/K

INDEX

I. Please read before attempting service.

1. For reason of safety, don't connect AC Power directly to the test chassis, except an Isolation Transformer is used for AC Power source of the TV chassis. While the TV chassis need AC Power to attempt alignment.
2. Never disconnect any leads & portion on the chassis during operations.
3. Disconnect all Power before attempting any repairs or changing any parts on chassis.
4. Never short any portion of the chassis circuit while power is on.
5. All parts replaced should be identical. (Details of original parts & parts number. See Parts List.)

II. Test Equipment

1. VIF & SIF sweep generator (O/P impedance 75 ohm, O/P level : 70-120 dBuv/with attenuator).
2. TV Pattern Generator : 1) Full field color bar, Split field color bar or with white circle
   2) Cross hatch
   or
   3) Philips pattern
3. DC regulated power supply 0-15V
4. Digital volt meter (DC)
5. High tension volt meter (30KV)
6. Hand care demagnetizer
7. Audio Generator
8. AC Power isolation transformer
9. RF step attenuator (0-60dBuv)
10. Oscilloscope 40MHz, Dual channel
11. RMS AC volt meter

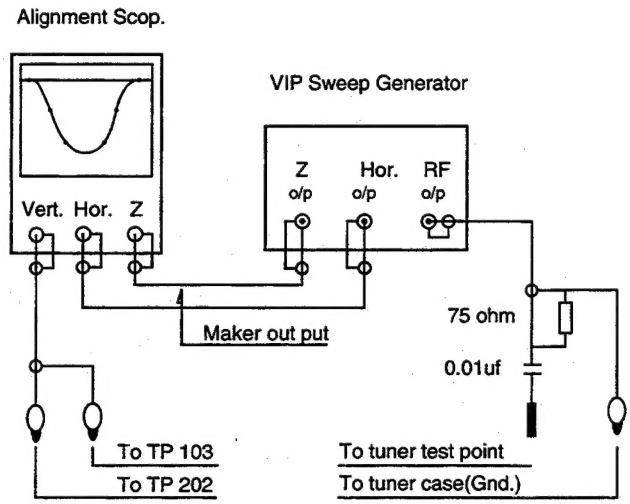


Fig. 1

III. VIF Alignment

A. Preparation (See figure 1)

1. Set up the VIF sweep generator & alignment scope (RF O/P signal level at 70-80dBuv)
2. Calibrate the vertical input sensitivity of alignment scope to 100mv/deviation.
3. Connects VIF sweep signal to the tuner test point & ground (See figure 1a).
4. Supply DC + 15V to chassis D607 N lead & negative to chassis GND.
5. Supply AGC bias to TP301 (See figure 2).
6. Connects VIF detect O/P signal from TP202 & TP103 (Ground)

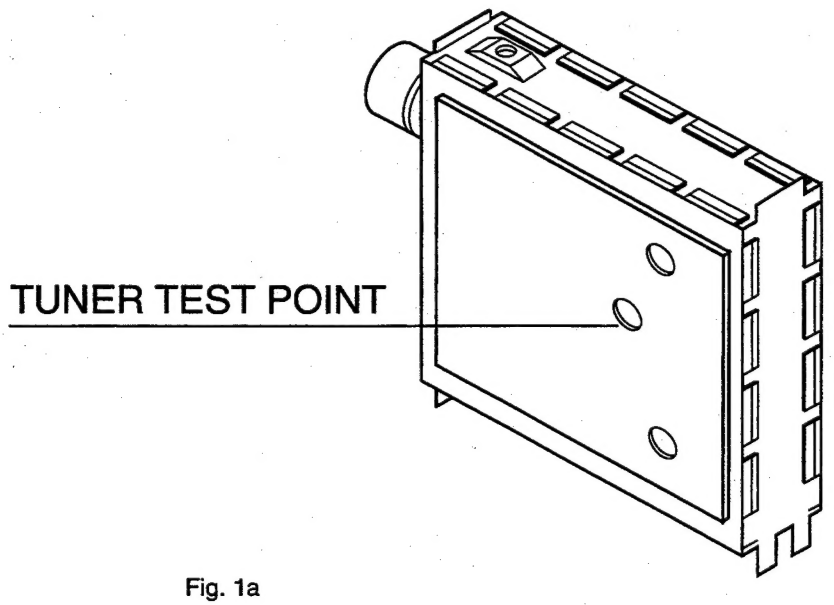


Fig. 1a

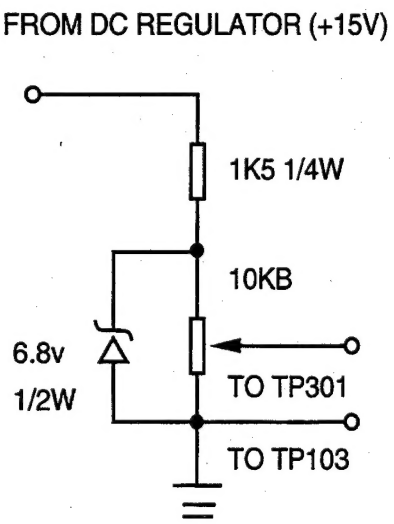


Fig. 2

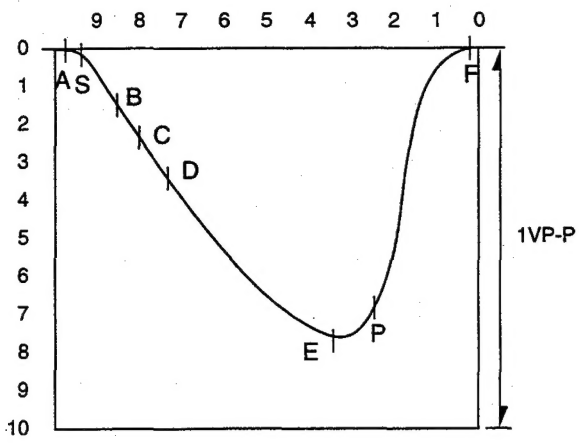


Fig. 3

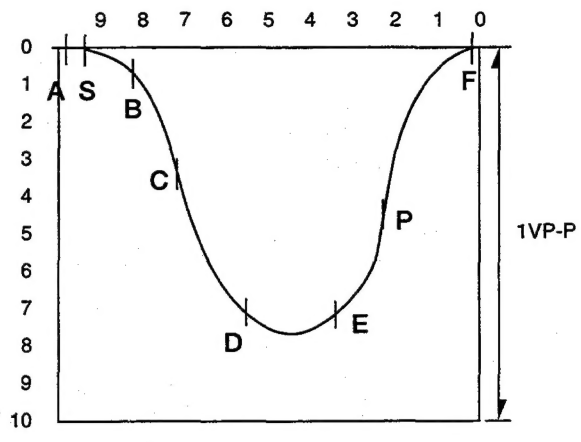


Fig. 4

B. Alignment procedure

1. Adjust the AGC bias to achieve 1Vp-p waveform display on alignment scope (100mv/Div.)
2. Adjust T302 to made the marker point "P" of VIF waveform to AROUND the maximum amplitude as fig. 3 (Relative markers frequency see table 1.)
3. Connect resistor 100 ohm parallel to R309.
4. Adjust T103 to obtain the waveform as in Fig. 4
5. Remove the external 100 ohm resistor across R309.

IV. AFC Alignment

A. Preparation

1. Set up the VIF sweep generator & alignment scope (RF O/P signal level at 70-80dBuv).
2. Calibrate the vertical input sensitivity of alignment scope to 1V/deviation.
3. Connects VIF sweep signal to the tuner test point & ground.
4. Supply DC +15V to chassis D607"N" lead & negative to chassis GND.
5. Supply AGC bias to TP301 (See figure 2).
6. Connect AFC O/P signal from TP303 & TP103 (GND) to alignment scop.

TUNER / marker	UVE 33-W14	UVE 30-R01
A	31.90MHz	30.00MHz
S	33.40MHz	31.50MHz
B	33.97MHz	32.84MHz
C	34.47MHz	33.57MHz
D	35.22MHz	
E	38.15MHz	
P	38.90MHz	38.00MHz
F	40.40MHz	40.20MHz

Table 1

	B/G	D/K
A	5.35MHz	6.35MHz
S	5.50MHz	6.50MHz
B	5.65MHz	6.65MHz

Table 2

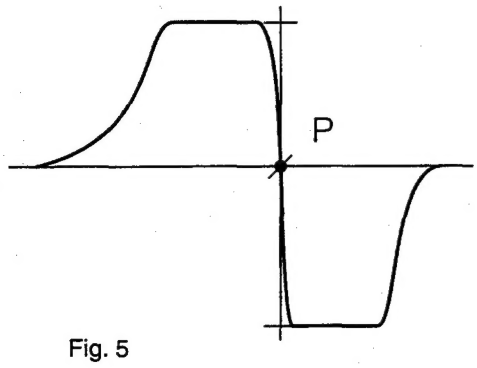


Fig. 5

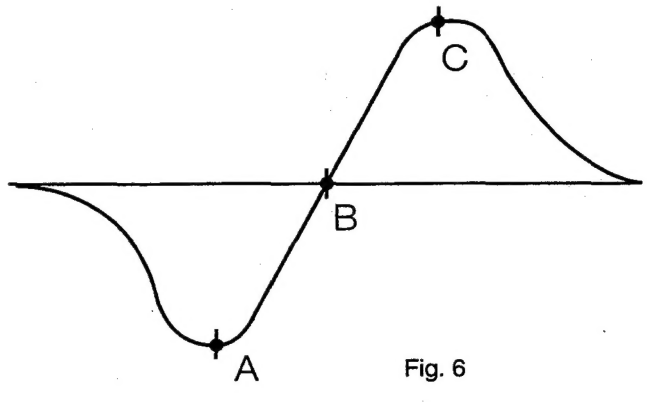


Fig. 6

Table 2

B. Alignment Procedure

1. Adjust the AGC bias to made the AFC waveform just starting clipped (10vp-p). (See figure 5)
2. Adjust T301 to make the marker "P" is centred (See Table 1).

V. SIF Alignment

A. Preparation

1. Supply DC +15V to "N" lead of D607.
2. Set the output level of SIF Sweep Generator at 90 dBuv.
3. Connect output lead of SIF Sweep Generator to TP202 & TP103 (GND).
4. Connect SIF Det O/P to alignment scop from TP302 & TP103 (GND).

B. Alignment procedure

1. Adjust T303 to make the marker point B (relative marker frequency see table 2) centered as in (Fig 6).

VI. RF AGC Alignment

1. Set a Color Bar or PHILIPS Pattern at high end channel of VHF high.
2. Set the input pattern signal level within 60dB +-3dB.
3. Set the contrast level to the highest.
4. Set Brightness control & color control at the normal position.
5. Adjust RF AGC control VR307 to a point where the picture "snow noise" just disappeared.
6. Reset the input pattern signal level to 100dB +-3dB.
7. Check the CRT Picture that should be looks stable & clear, even change channel No. up & down or reverse. If the pattern displays abnormal (such as picture performed, station shifted). Repeat alignment from step 2.
8. Receive another pattern signal at UHF the picture display on CRT should also keep normal. (Input signal level at 100dBuv).
9. Attenuate the input signal level to 60dBuv, the picture effect displays on CRT should same as step 5, w/o any picture "snow noise", otherwise repeat alignment from step 1.

VII. Focus Adjustment

1. Receive a crosshatch pattern (Fig. 7, input level 80dBuv).
2. Set contrast level to maximum.
   Set Brightness level to middle level.
3. Adjust focus potentiometer (on flyback transformer see fig. 8) to obtain a sharpness & clearest picture on the center cross-line.

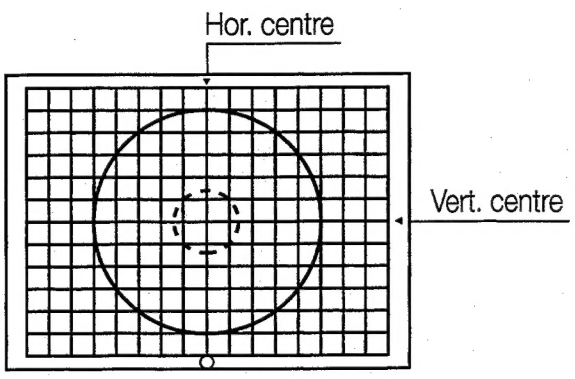


Fig. 7

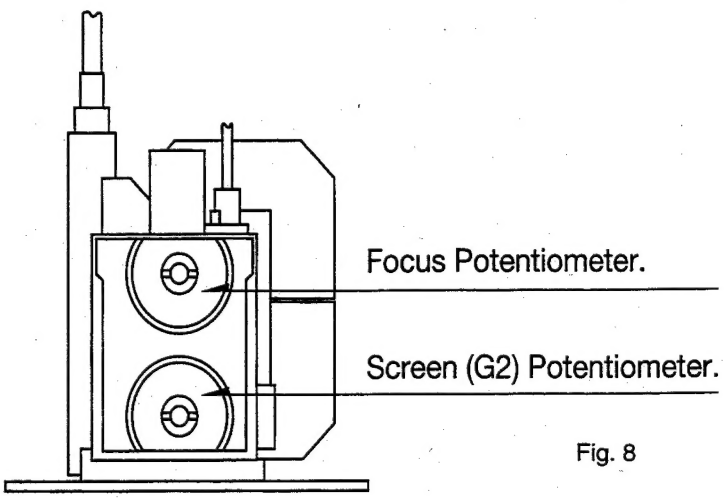


Fig. 8

VIII. White Balance alignment

1. Receive a Split field color bar or full field color bar but switch off chroma. Set signal input level to 80dBuv.
2. Preset the followings:-
   Color control level to minimum
   Set Brightness & Contrast control level (on screen display level control pattern, until there is three bars left on screen.
   Set Sub-Brightness control (VR816) at centre position.
   Set screen Voltage (G2) to minimum (fig. 8).
   Set VR882, VR894 at centre position.
   Set VR879, VR892 at the lowest position (anti-clockwise)
   Set VR816 at the centre position.
   Set service switch (S801) to on position.
3. Adjust screen control potentiometer (G2) to clockwise until a line just illuminates.

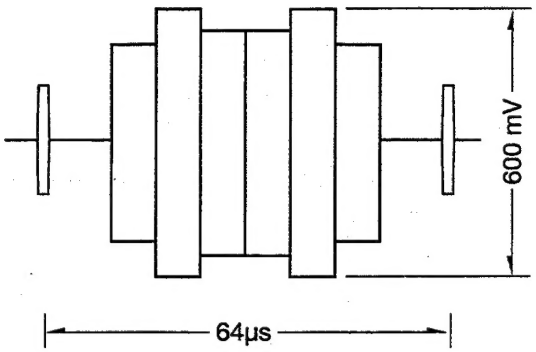


Fig. 9

4. Adjust VR875 to the illuminates line just became red in color.
5. Adjust VR879 to make the illuminates line became yellow.
6. Adjust VR892 to make the illuminates line became white.
7. Reset service switch (S801) to Off position.
8. Check the displays picture whether it is in proper black & white background (no coloration) otherwise re-align from step 2.
9. Set the Brightness & Contrast control level to maximum.
10. Check the displays picture whether it is in proper black & white background otherwise adjust VR894 (Red) & VR882 (Green) to obtain a uniform white raster.
11. Recheck the picture white balance by adjust the brightness & contrast control level from high-lights to low-lights. If the picture displays in non-uniform white raster. Repeat alignment from beginning.

IX. Vertical height adjustment

1. Receive a cross-hatch pattern (with circle) or PHILIPS Pattern (Input signal level at 80dBuv).
2. Adjust V Height control VR809 to obtain the circle Pattern to be a uniform circle
3. Check the horizontal line of the center cross-line it should meet the vertical centre mark (off center tolerance +-2mm)(See Fig. 7)

X. Horizontal centre adjustment

1. Keep the pattern reception as Fig. 7
2. Adjust VR616 to obtain the vertical line of center cross-line meet at the Horizontal centre mark.

XI. Chrominance Band Pass Filter Alignment (PAL)

1. Receive a color bar pattern signal (with 80dB input level).
2. Set color brightness & contrast control at middle level.
3. Connect the High frequency scope test probe (switch to X10 scale) from scop to TP802.
4. Adjust T802 to the waveform max (~800mv p-p) and then advance, to achieve the waveform for about 600mVp-p, as showed in Fig. 9.

XII. Color Demodulation & Delay Line Phase Alignment (PAL).

1. Receive a Split Color Bar Pattern, signal (in luminance order 75% white) or a Philips Pattern TV Test Pattern Generator (signal input level 80dBuv).
2. Set color/contrast level at maximum level; brightness at middle level.

3. Connect a scope Test Probe (set to X10 scale) from scope to TP1205 (B-Y O/P), adjust VR849 to made separation lines mixing together (See Fig. 10a).
4. Adjust T801 to made the separation lines mix together (10a).
5. Repeat step 3 & 4 until waveform showed in Fig. 10b is obtained.

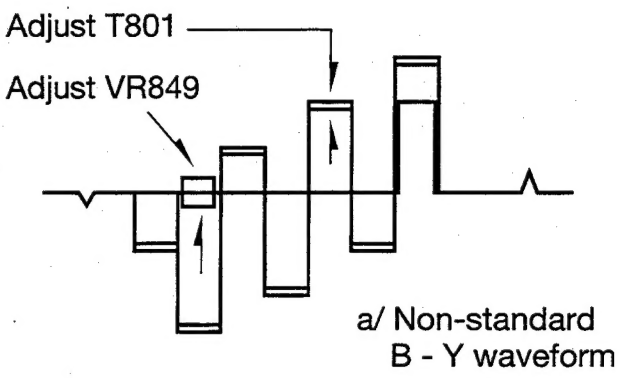
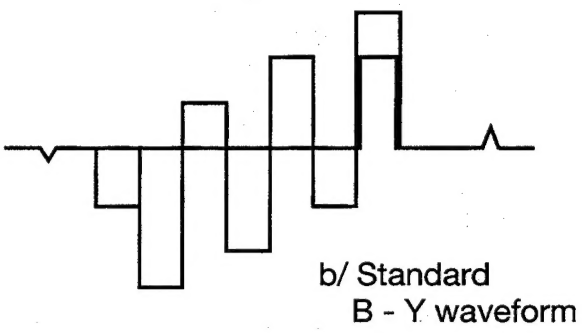


Fig. 10



XIII. Chrominance Saturation Alignment.

1. Receive a color bar pattern signal (Input Level 80dBuv.)
2. Adjust Sub-Brightness control (VR816) at middle position.
3. Adjust color control level at 2/3 position and Contrast at middle position.
4. Connects Test Probe (10:1) from TP801 (B O/P) scop.
5. Adjust Sub-color control (VR853) to make the Color Bar signal at the same level as show in Fig. 11.

XIV. Bell Filter Alignment (SECAM)

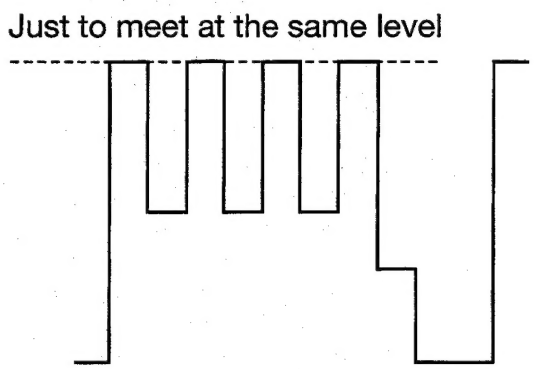
1. Connect Oscilloscope to TP1204 (PIN 18 OF TA8659) through a 10 PF Capacitor.
2. Receive color bar (SECAM) signal.
3. Adjust T1202 to obtain the waveform as same as Fig. 12.

XV. SECAM Killer Adjustment (SECAM)

1. Receive Color Bar signal.
2. Connect the voltmeter or scop to TP1203
3. Adjust the ident coil T1201 to make the output DC voltage to maximum. (About 10V)

XVI. SECAM Phase Adjust (SECAM)

1. Receive Color Bar signal.
2. Connect Syncroscope at TP1201 (Blue) and adjust T1204 to obtain the waveform as same as FIG. 13 that a & b at the same level.
3. Connect Syncroscope at TP1205 (Red) and adjust T1203 to obtain the waveform as same as FIG. 14 (a & b at the same level).



XVII. CRT Beam Current Alignment

1. Prepare a Digital DC volt meter & select 2V range.
2. Connect Positive Pole lead of meter to TP601 & Negative Pole lead to TP602.
3. Set Sub-brightness control (VR816) at middle position.
4. Receive a color bar pattern signal (level adjust to 80dBuv)
5. Set color control ..... to maximum level
   brightness control ..... to maximum level
   contrast control ..... to maximum level

Fig. 11

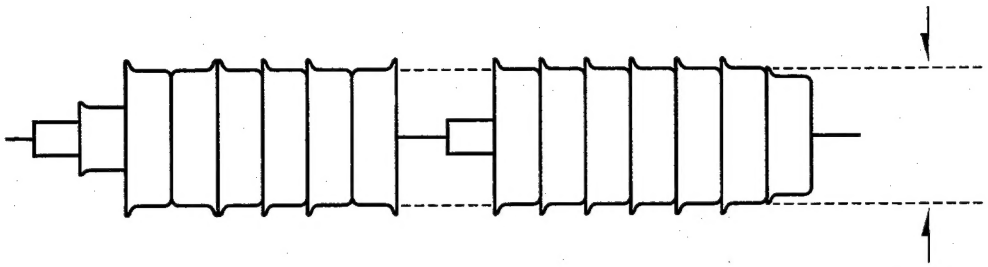


Fig. 12

Just put a dotted line

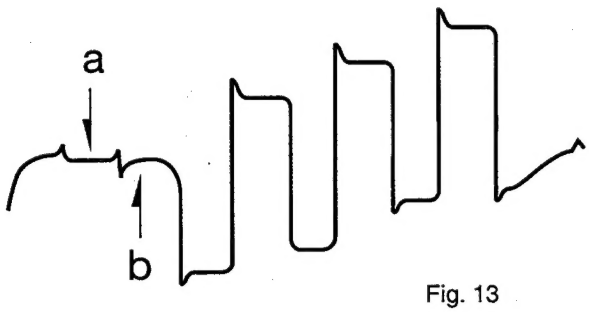


Fig. 13

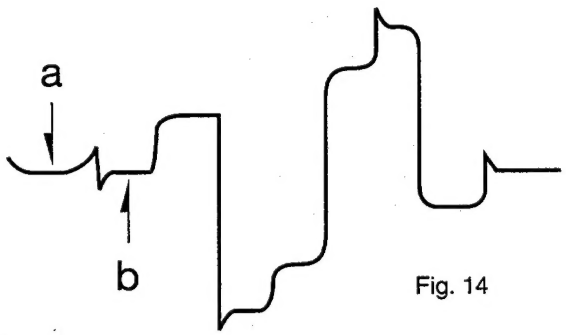


Fig. 14

6. Adjust Sub-brightness control VR816 to get a reading of corresponding beam current is about 950UA. Caution : Too High of seam surrent may cause picture tube X-ray radiation and reduce the life of CRT. The limit of beam current is 1MA. (Beam Current = Voltage Across R611//R612÷ Equivalent Resistance of R611//R612 Minus Residual reading at the dark picture.)

XVIII. Colour purity and convergence adjustment

It should be remembered that the purity magnet and Deflection Yoke from part of the integrated tube components assembly. As these were aligned and fixed during manufacture, it is advisable that the sealing compound should not be broken and the replacement of the whole picture tube with neck components should be taken for servicing. However the typical procedure for some model is described as follows only for reference.

Note: Before attempting any purity and/or convergence adjustment, the receiver should be operated for at least fifteen minutes.

Colour Purity Adjustment

1. Demagnetize the picture tube and cabinet using a degaussing coil.
2. Turn the CONTRAST and BRIGHTNESS Controls to maximum.
3. Adjust RED and BLUE CUT OFF controls VR875 and VR892 to provide only a green raster. Advance the GREEN CUT OFF Control (VR879)if necessary. Or use PHILIPS Pattern generator to send a pure GREEN Pattern.
4. Loosen the clamp screw holding the yoke, and slide the yoke backward or forward to provide vertical green belt (zone) in the picture screen.
5. Remove the Rubber Wedges.
6. Rotate the lock ring (See Fig. 15) clockwise to loosen. Rotate and spread the tabs of the purity magnet (See Fig. 16) around the neck of the picture tube until a green belt is obtained in the centre of the screen. And at the same time, centre the raster vertically by adjusting the magnet. After the above adjustment, rotate the lock ring counterclockwise to lock tightly.
7. Move the yoke slowly forward or backward until a uniform green screen is obtained. Tighten the clamp screw.
8. Check the purity of the red and blue raster by adjustment the CUT OFF Controls or by send pure red/blue pattern from philips pattern generator.

9. Tighten the clamp screw of the yoke temporarily.
10. Obtain a white raster; referring to SECTION VIII. "WHITE BALANCE ALIGNMENT"
11. Proceed with convergence adjustment.

Convergence Adjustments

Centre Convergence Adjustment

1. Receive crosshatch pattern with a colour bar signal generator.
2. Adjust the BRIGHTNESS and CONTRAST Controls for well defined pattern.
3. Adjust two tabs of the 4-Pole Magnets to change the angle between them (See Fig. 16) and superimpose red and blue vertical lines in the centre area of the picture screen. (See Fig. 17)
4. Turn the both tabs at the same time keeping the constant angle to superimpose red and blue horizontal lines at the centre of the screen. (See Fig. 17)
5. Adjust two tabs of 6-Pole Magnets to superimpose red/blue line and green one. Adjusting the angle affects the vertical lines and rotating both magnets affects the horizontal lines.
6. Repeat adjustments 3, 4, 5 with understanding red, green and blue movement, because 4-Pole Magnets and 6-Pole Magnets have mutual affection and it makes dots movement complex.

Circumference Convergence Adjustment

1. Loosen the clamping screw of deflection yoke to allow the yoke to tilt.
2. Put a wedge as shown in Fig. 1 temporarily. (Do not remove cover paper on adhesive part of the wedge.)
3. Tilt front of the deflection yoke up or down to obtain better convergence in circumference. (See Fig. 17)
4. Put other wedge into bottom space and remove the cover paper to stick.
5. Tilt front of the yoke right or left to obtain better convergence in circumference. (See Fig. 17)
6. Keep the yoke position and put another wedge in either upper space. Remove cover paper and stick the wedge on picture tube to fix the yoke.
7. Detach the temporarily mounted wedge and put it in another upper space. Stick it on picture tube to fix the yoke.
8. After fixing three wedges, recheck overall convergence. Tighten the screw firmly to fix the yoke and check the yoke is firm.
9. Stick 3 adhesive tapes on wedges.

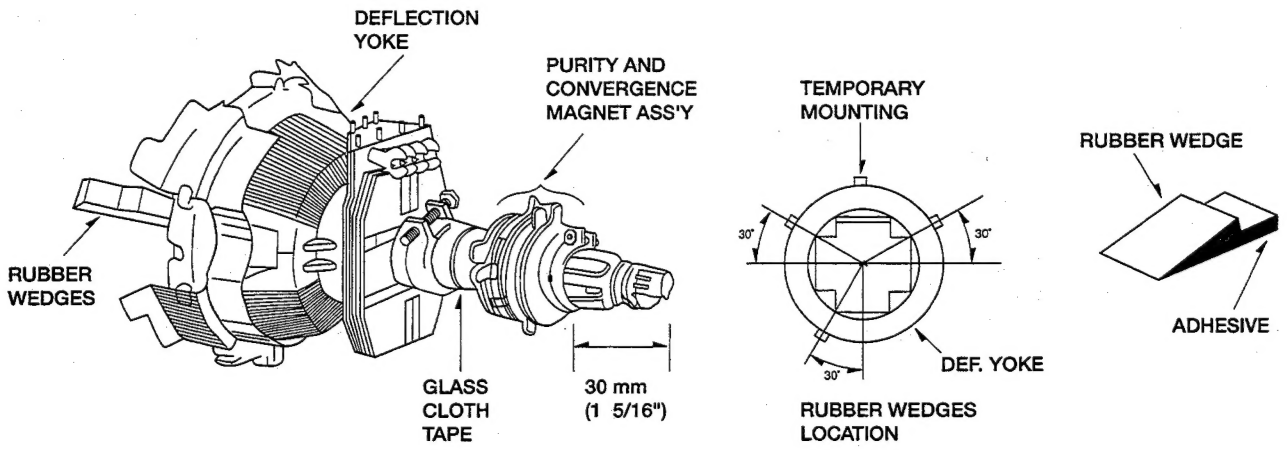
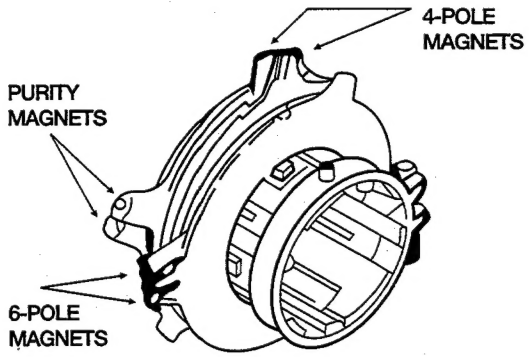
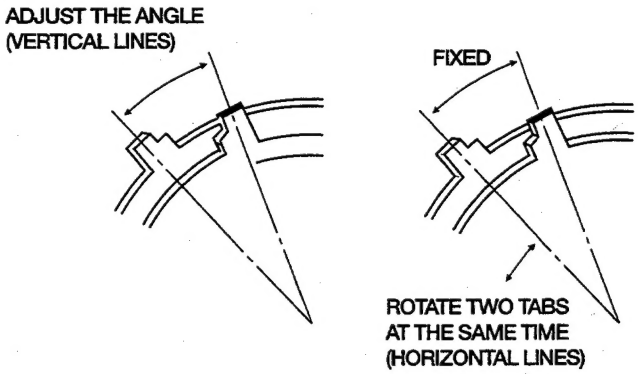


Fig. 15

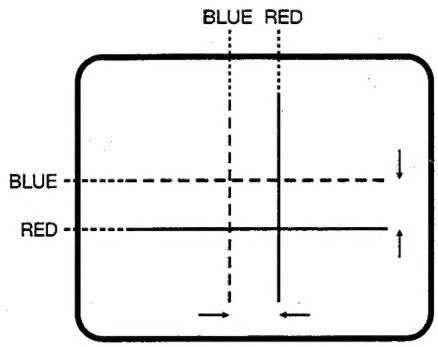


CONVERGENCE MAGNET ASSEMBLY

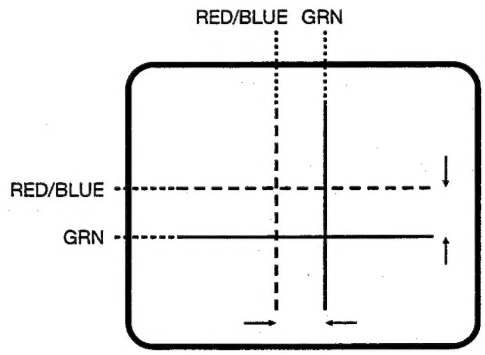


ADJUSTMENT OF MAGNETS

Figure 16

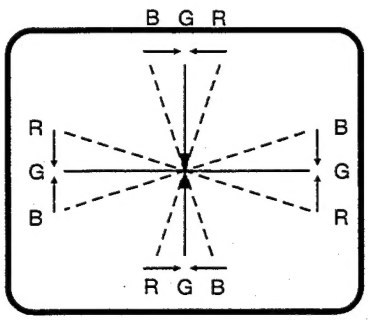


4-POLE MAGNETS MOVEMENT

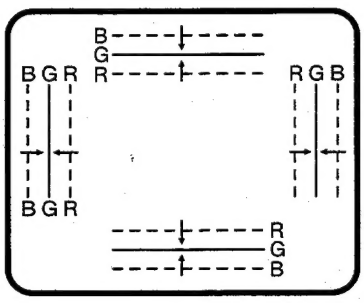


6-POLE MAGNETS MOVEMENT

Centre Convergence by Convergence Magnets



INCLINE THE YOKE UP (OR DOWN)

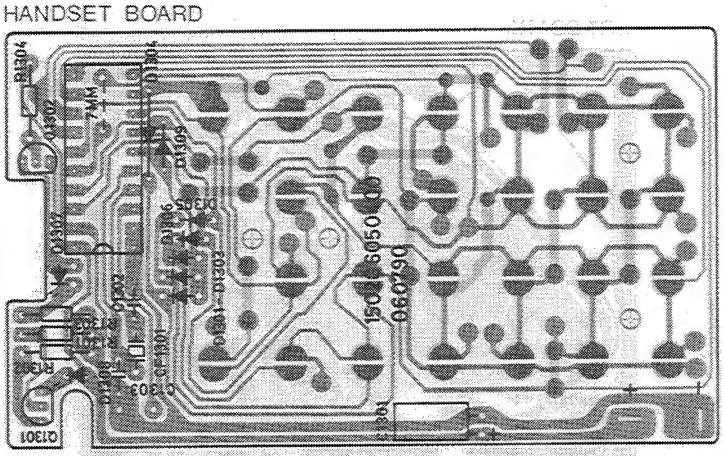


INCLINE THE YOKE RIGHT (OR LEFT)

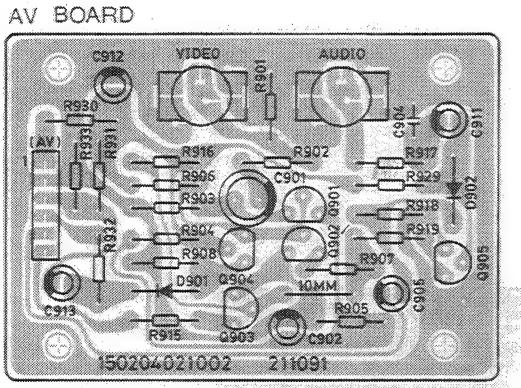
Circumference Convergence by DEF Yoke

Figure 17 Dot Movement Pattern

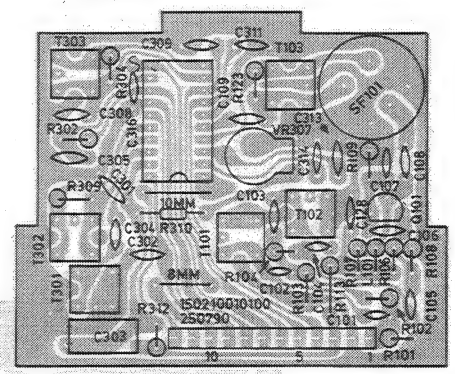
HANDSET BOARD



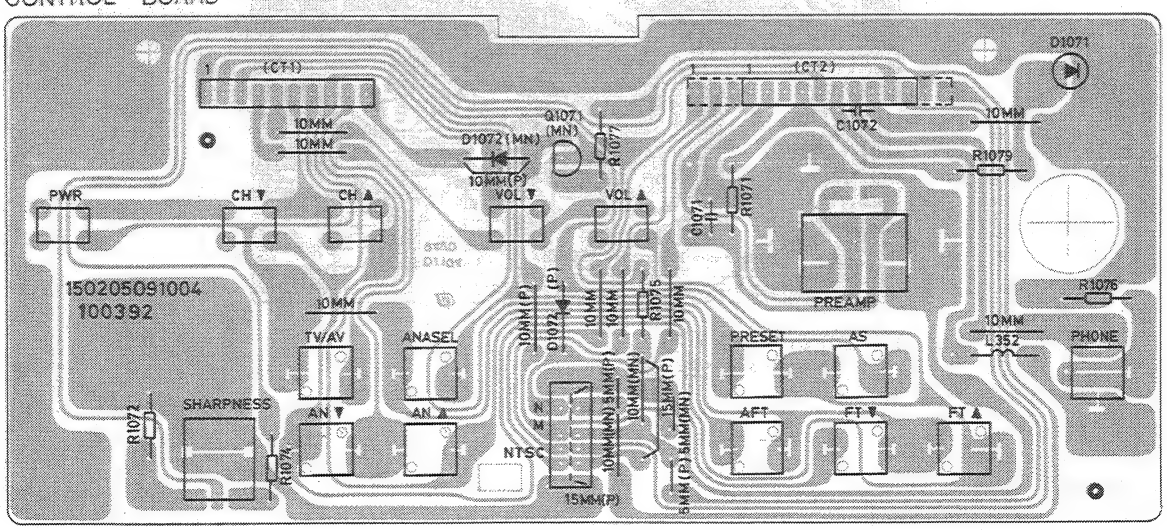
AV BOARD



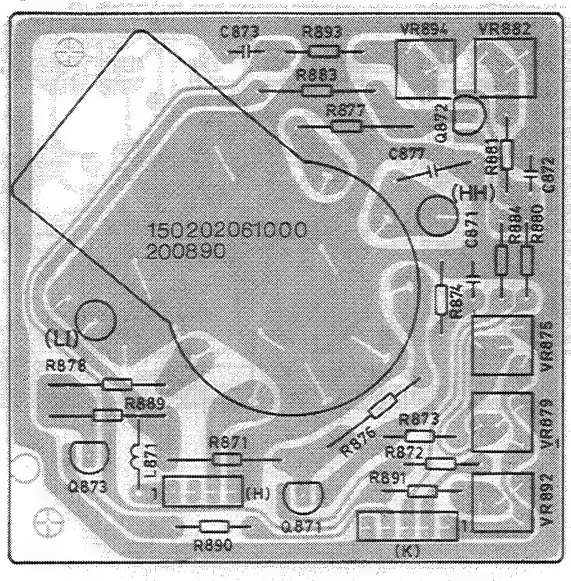
IF BOARD



CONTROL BOARD

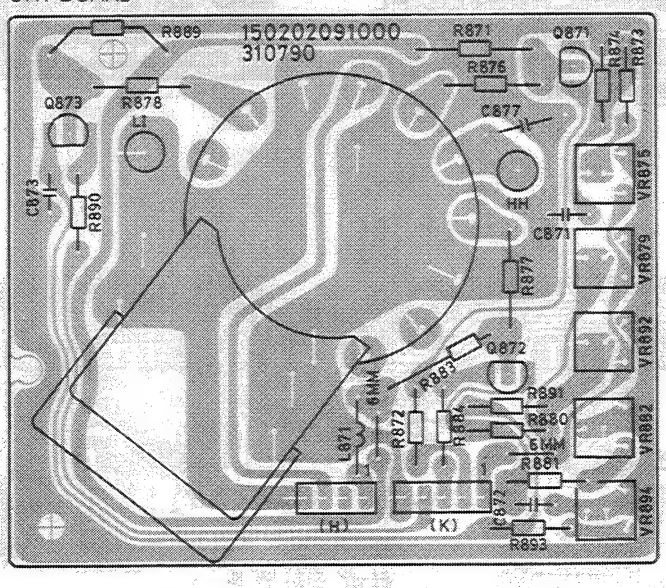


CRT BOARD



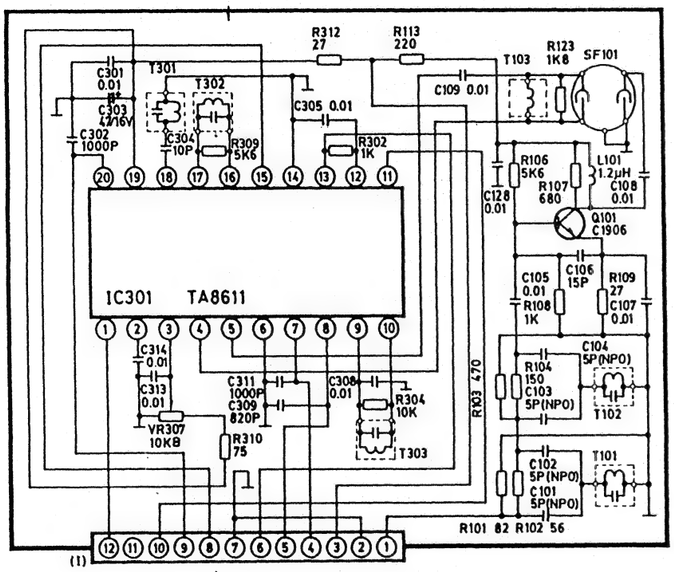
For CRT A51JAR 90 x 09
A48JAN 90 x 05 (VW)

CRT BOARD

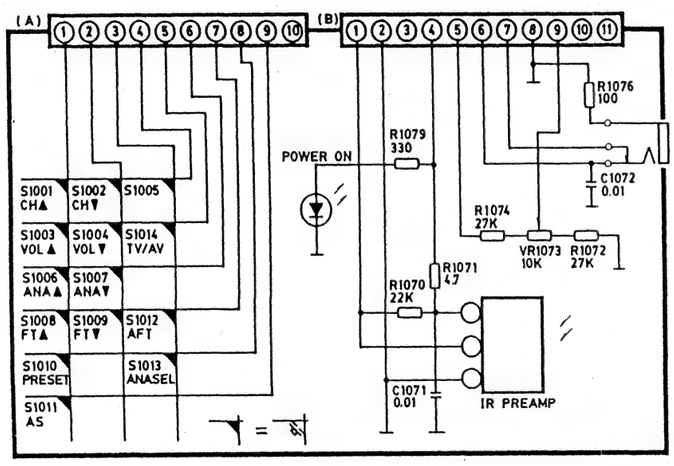


For CRT 51GGB95 x TC
A48KM x 12XX39

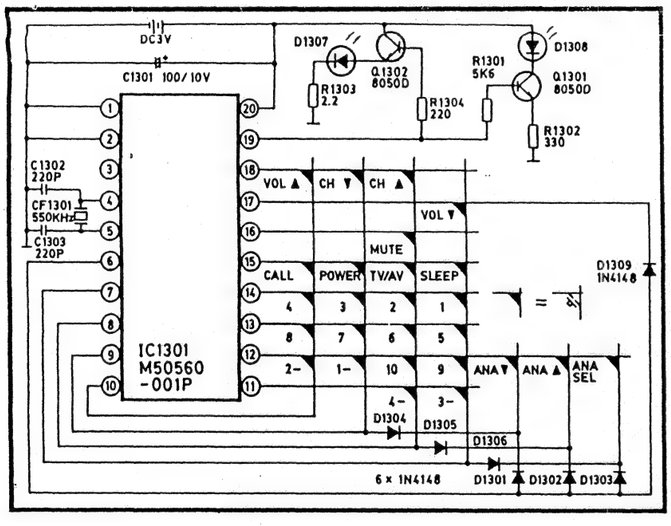
IF BOARD



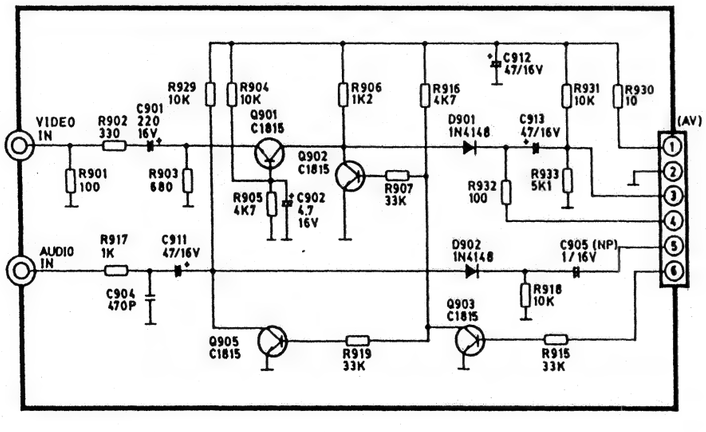
CONTROL BOARD



REMOTE CONTROL BOARD

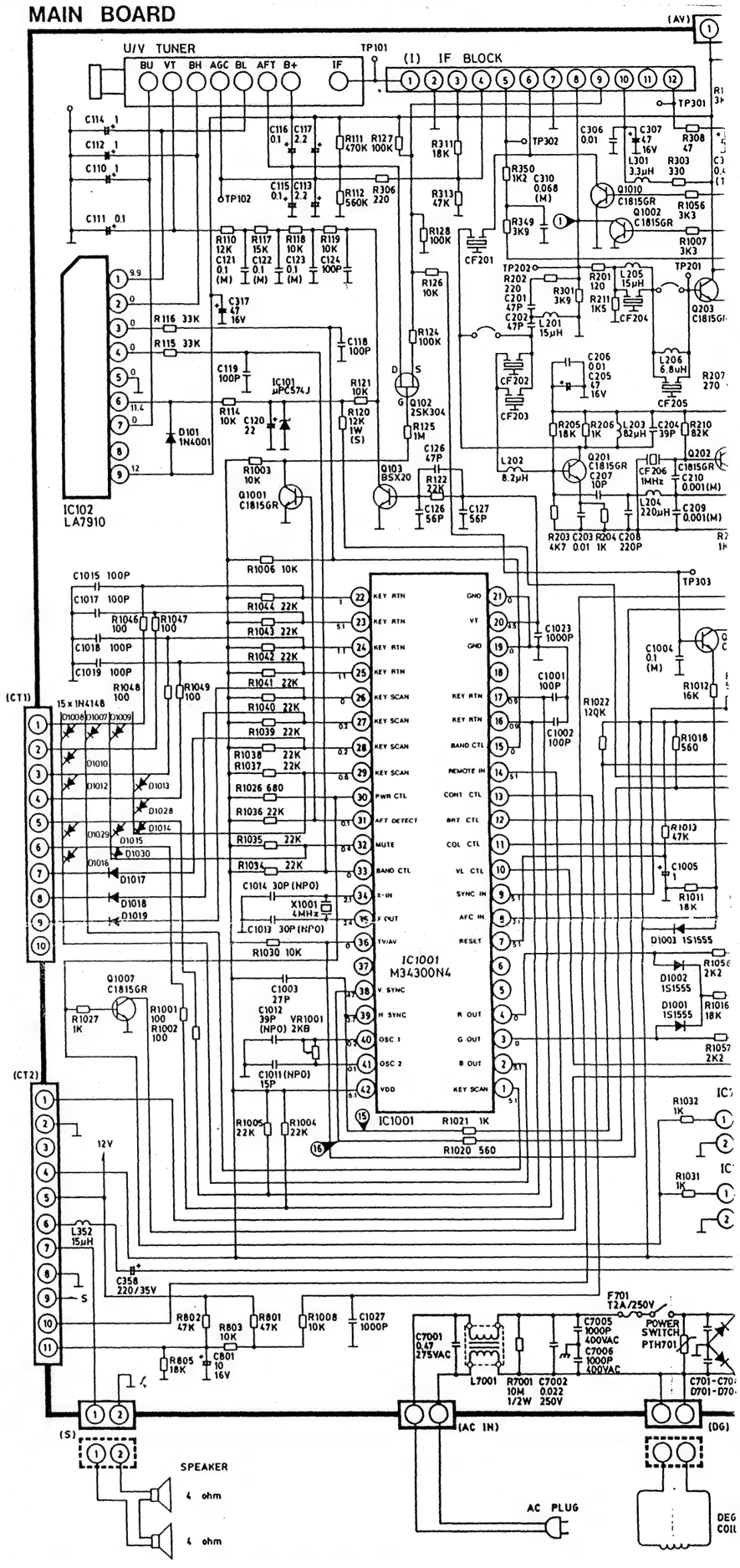


AV BOARD

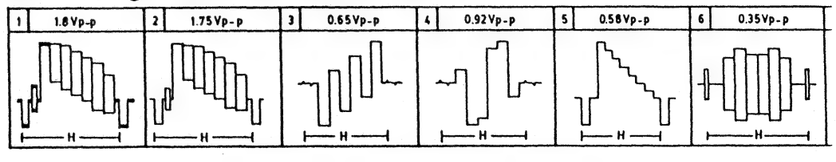


SCHEMATIC DIAGRAM

MAIN BOARD

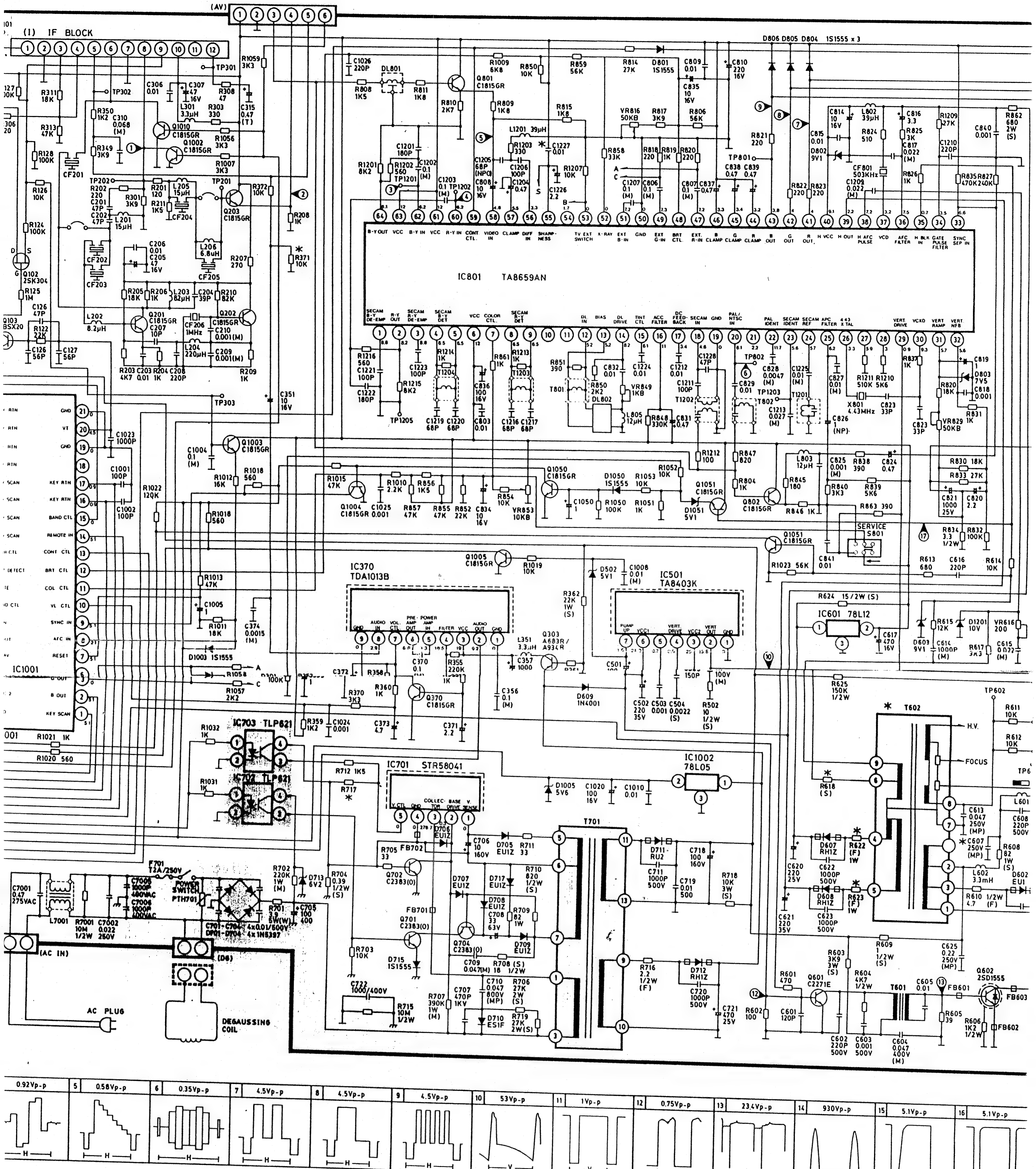


WAVE FORMS : INDICATES WAVE FORM CHECK POINT

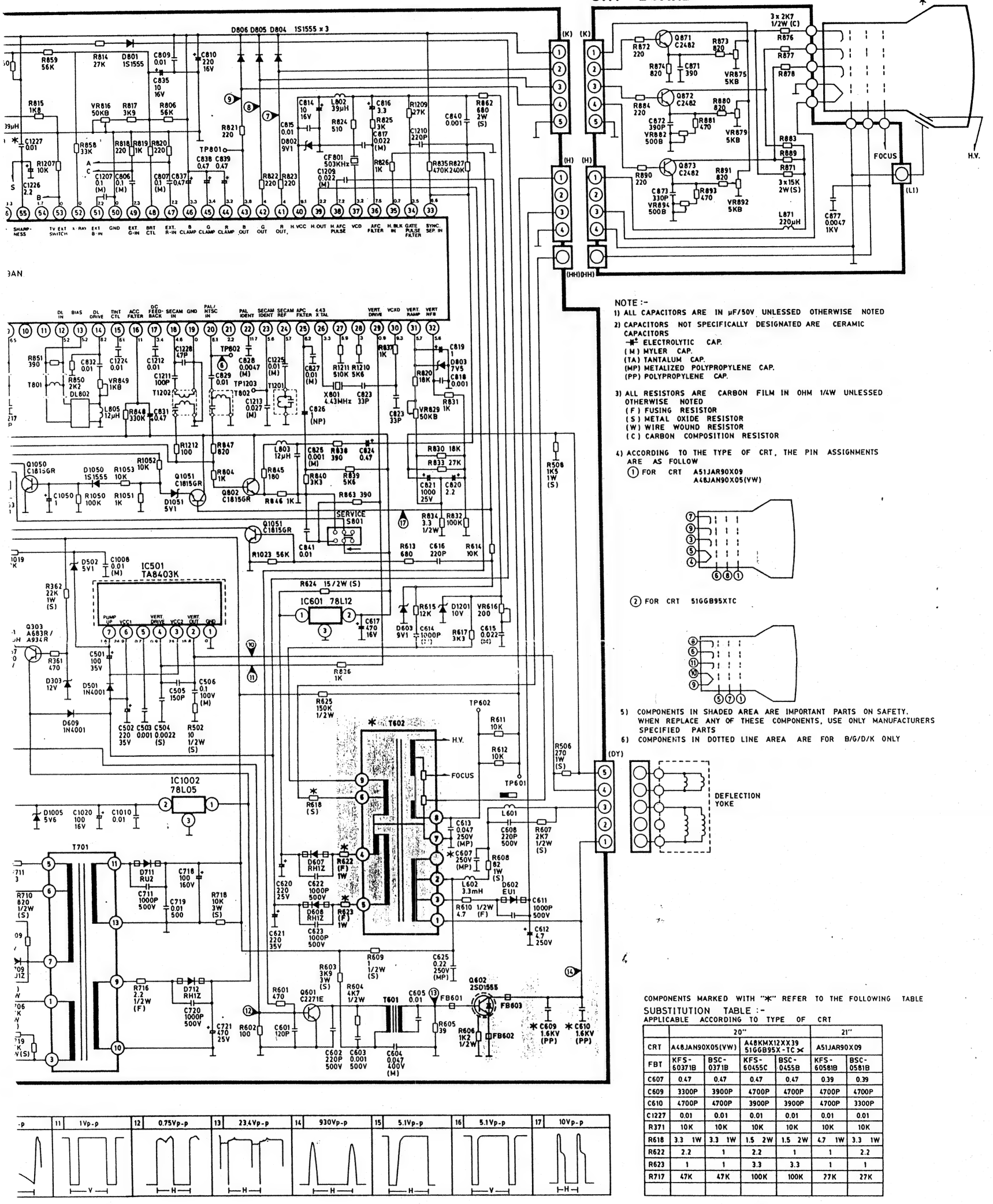


THIS CIRCUIT DIAGRAM IS SUBJECT TO CHANGE WITHOUT NOTICED

32MK



ITHOUT NOTICED



NOTE :-

1) ALL CAPACITORS ARE IN μF/50V UNLESSED OTHERWISE NOTED
2) CAPACITORS NOT SPECIFICALLY DESIGNATED ARE CERAMIC CAPACITORS
   - ELECTROLYTIC CAP.
   - (M) MYLER CAP.
   - (TA) TANTALUM CAP.
   - (MP) METALIZED POLYPROPYLENE CAP.
   - (PP) POLYPROPYLENE CAP.
3) ALL RESISTORS ARE CARBON FILM IN OHM 1/4W UNLESSED OTHERWISE NOTED
   - (F) FUSING RESISTOR
   - (S) METAL OXIDE RESISTOR
   - (W) WIRE WOUND RESISTOR
   - (C) CARBON COMPOSITION RESISTOR
4) ACCORDING TO THE TYPE OF CRT, THE PIN ASSIGNMENTS ARE AS FOLLOW
   - (1) FOR CRT A51JAR90X09
     A48JAN90X05(VW)

   - (2) FOR CRT 51GGB95XTC

5) COMPONENTS IN SHADED AREA ARE IMPORTANT PARTS ON SAFETY. WHEN REPLACE ANY OF THESE COMPONENTS, USE ONLY MANUFACTURERS SPECIFIED PARTS
6) COMPONENTS IN DOTTED LINE AREA ARE FOR B/G/D/K ONLY

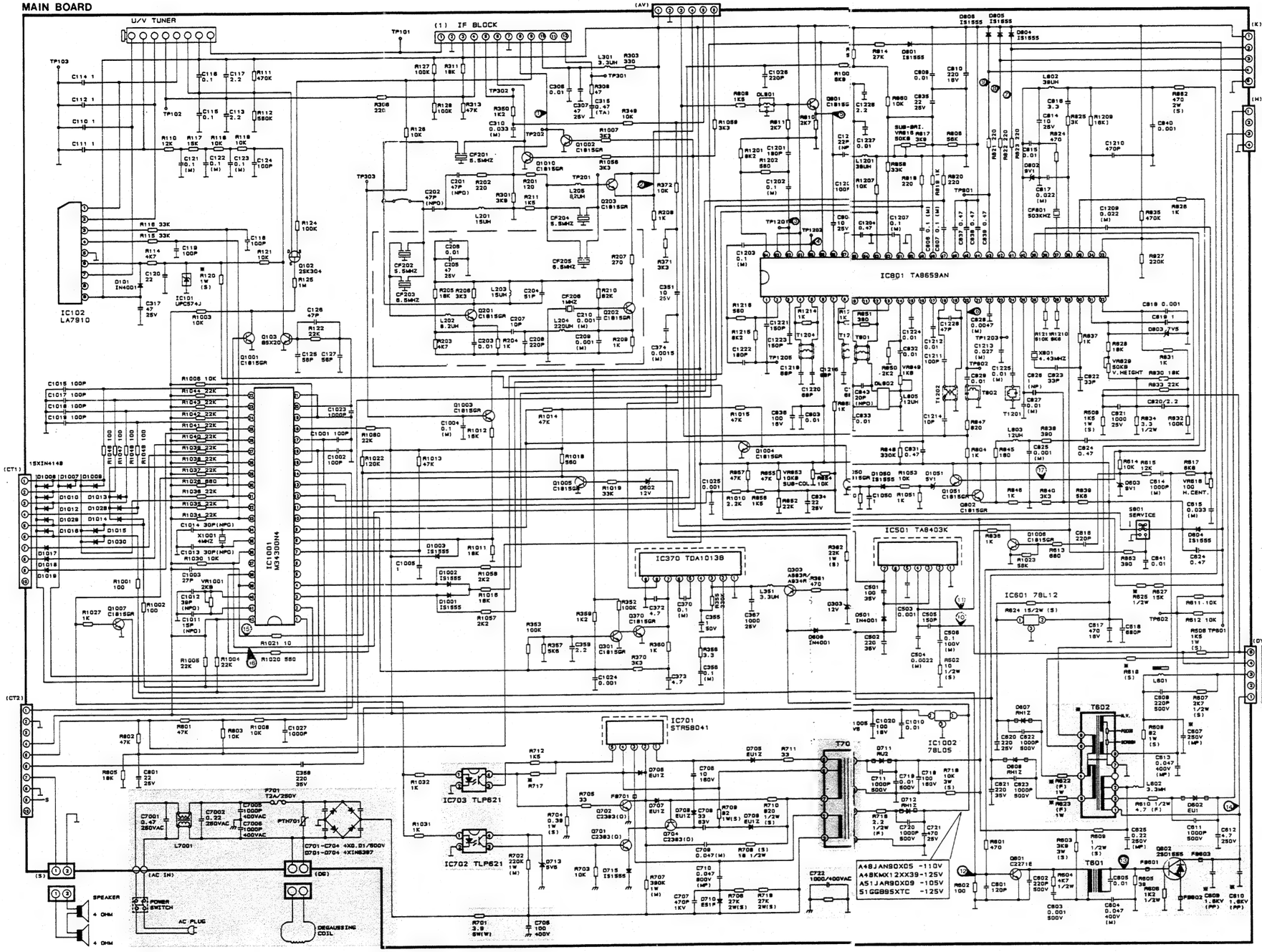
COMPONENTS MARKED WITH "*" REFER TO THE FOLLOWING TABLE

SUBSTITUTION TABLE :-
APPLICABLE ACCORDING TO TYPE OF CRT

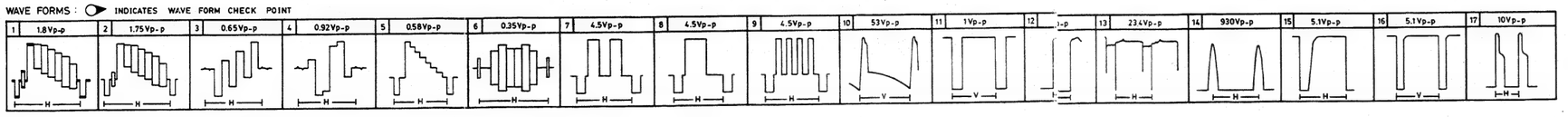
	20"				21"	
CRT	A48JAN90X05(VW)		A48KMX12XX39 51GGB95X-TC×		A51JAR90X09	
FBT	KFS-60371B	BSC-0371B	KFS-60455C	BSC-0455B	KFS-60581B	BSC-0581B
C607	0.47	0.47	0.47	0.47	0.39	0.39
C609	3300P	3900P	4700P	4700P	4700P	4700P
C610	4700P	4700P	3900P	3900P	4700P	3300P
C1227	0.01	0.01	0.01	0.01	0.01	0.01
R371	10K	10K	10K	10K	10K	10K
R618	3.3 1W	3.3 1W	1.5 2W	1.5 2W	4.7 1W	3.3 1W
R622	2.2	1	2.2	1	1	2.2
R623	1	1	3.3	3.3	1	1
R717	47K	47K	100K	100K	77K	27K

DRAWING NO. : MB / MK 2001

MAIN BOARD

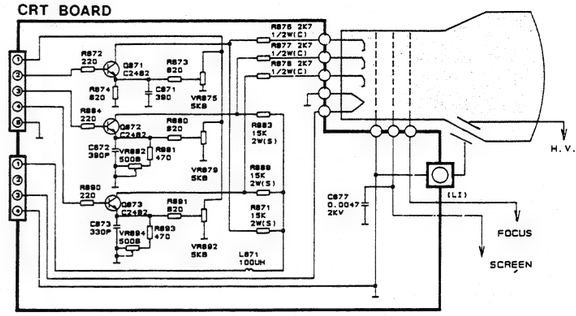


WAVE FORMS : INDICATES WAVE FORM CHECK POINT



THIS CIRCUIT DIAGRAM IS SUBJECT TO CHANGE WITHOUT NOTICED

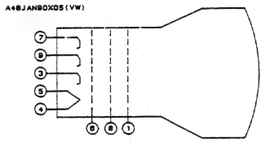
CRT BOARD



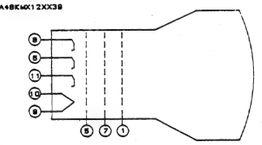
NOTE:-

1) ALL CAPACITORS ARE IN uF/50V UNLESSED OTHERWISE NOTED
2) CAPACITORS NOT SPECIFICALLY DESIGNATED ARE CERAMIC CAPACITORS
   - ELECTROLYTIC CAP.
   - (M) MYLER CAP.
   - (NP) NONPOLAR CAP.
   - (TA) TANTALUM CAP.
   - (MP) METALIZED POLYESTER CAP.
   - (PP) POLYPROPYLENE CAP.
3) ALL RESISTORS ARE CARBON FILM IN OHM 1/4W UNLESSED OTHERWISE NOTED
   - (F) FUSING RESISTOR
   - (S) METAL OXIDE RESISTOR
   - (W) WIRE WOUND RESISTOR
   - (C) CARBON COMPOSITION RESISTOR
4) ACCORDING TO THE TYPE OF CRT, THE PIN ASSIGNMENTS ARE AS FOLLOW

① FOR CRT A51JAR90X08
A48JAN90X05(VW)



② FOR CRT 51GG89SXTC
A48KMX12XX39



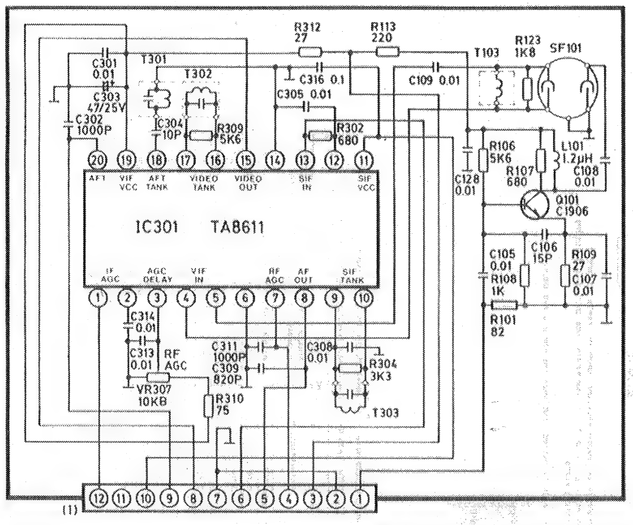
5) COMPONENTS IN SHADED AREA ARE IMPORTANT PARTS ON SAFETY. WHEN REPLACE ANY OF THESE COMPONENTS, USE ONLY MANUFACTURERS SPECIFIED PARTS
6) COMPONENTS IN DOTTED LINE AREA ARE FOR B/G/D/K ONLY.

COMPONENTS MARKED WITH " ※ " REFER TO THE FOLLOWING TABLE

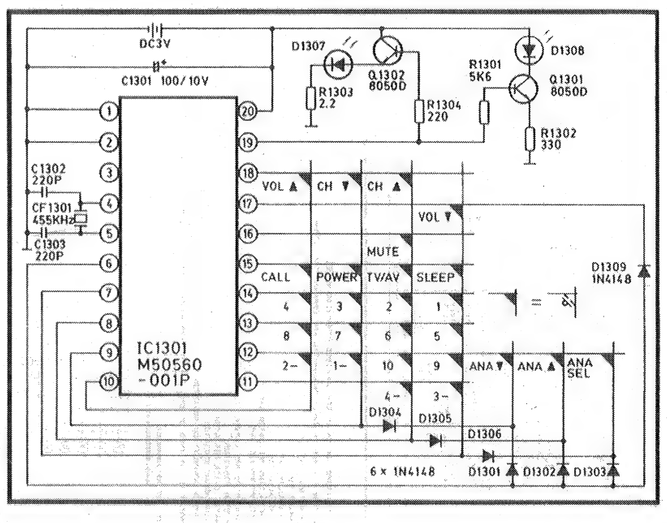
SUBSTITUTION TABLE:- APPLICABLE ACCORDING TO TYPE OF CRT

	20"		21"	
CRT	A48JAR90X05(VW)	A48KMX12XX39 / 51GG89SX-TC	A51JAR90X09	
T802	KFS-80371C	BSC-0371C	KFS-80455E	BSC-0455C	KFS-80581C	BSC-0581C
C807	0.39	0.39	0.47	0.39	0.39	0.39
C808	3300P	3800P	4700P	4700P	4700P	4700P
C810	4700P	4700P	3800P	3800P	4700P	4700P
R120	8.2K	8.2K	10K	10K	8.2K	8.2K
R818	3.3 1W	3.3 1W	2.2 2W	2.2 2W	5.6 1W	4.7 1W
R822	5.6	3.3	5.6	4.7	5.6	5.6
R823	1	1	3.3	3.3	1	1
R825	130K	130K	150K	150K	120K	120K
R717	47K	47K	100K	100K	27K	27K

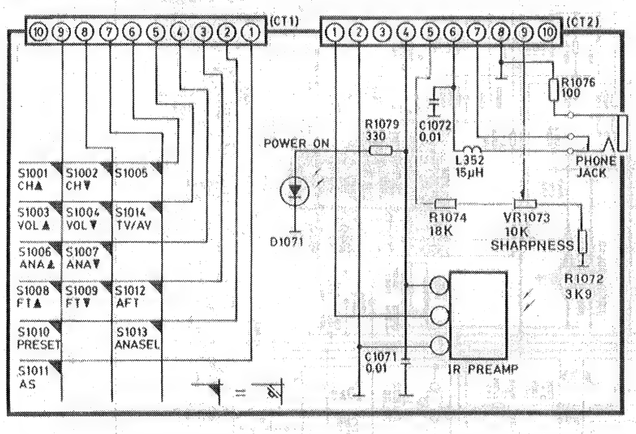
IF BOARD



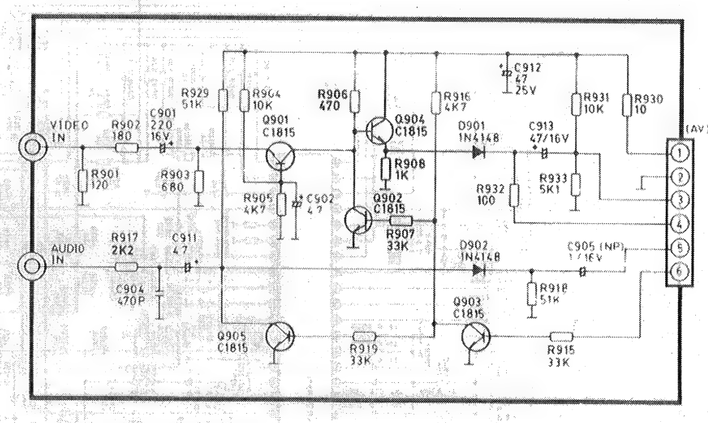
HANDSET BOARD



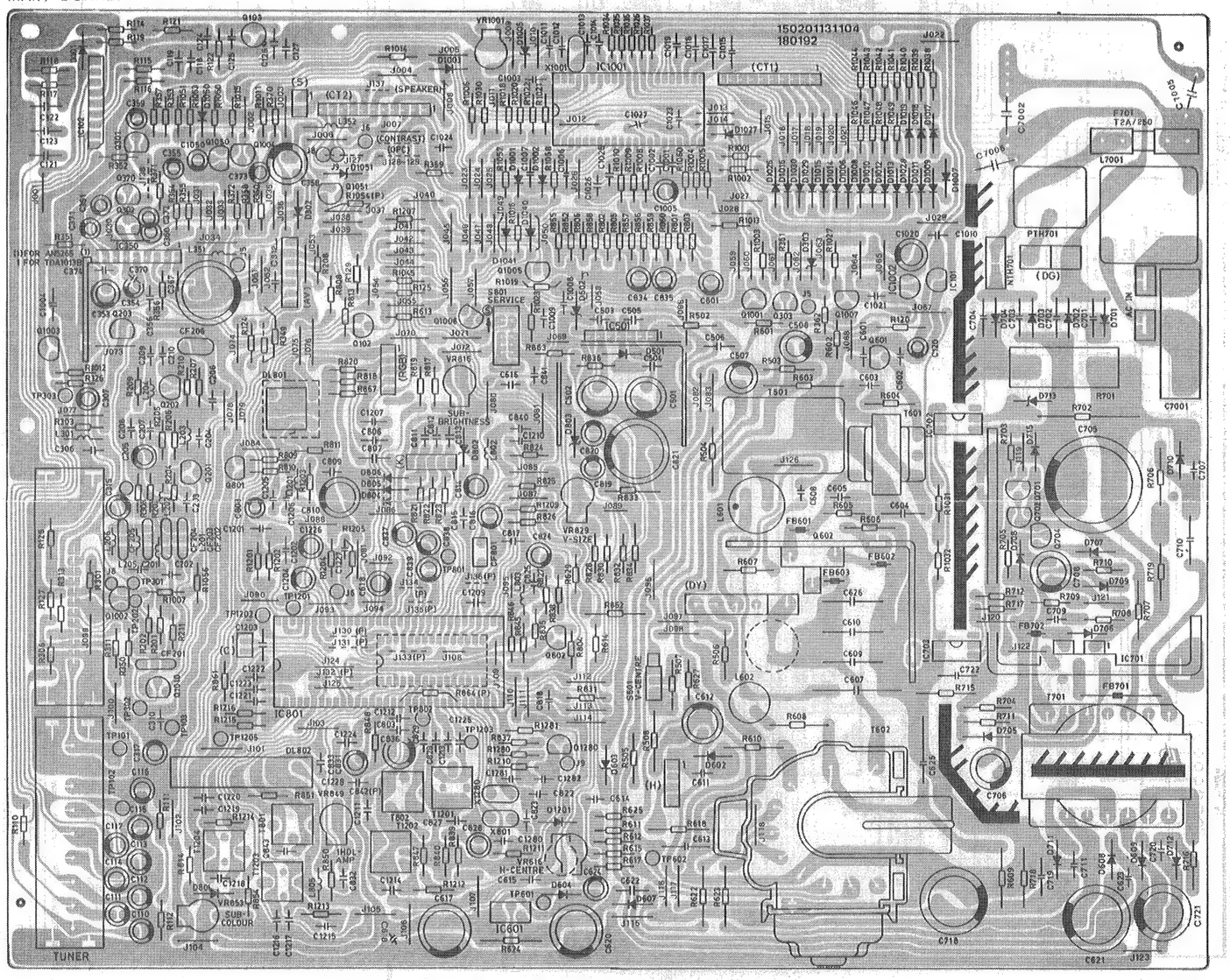
CONTROL BOARD

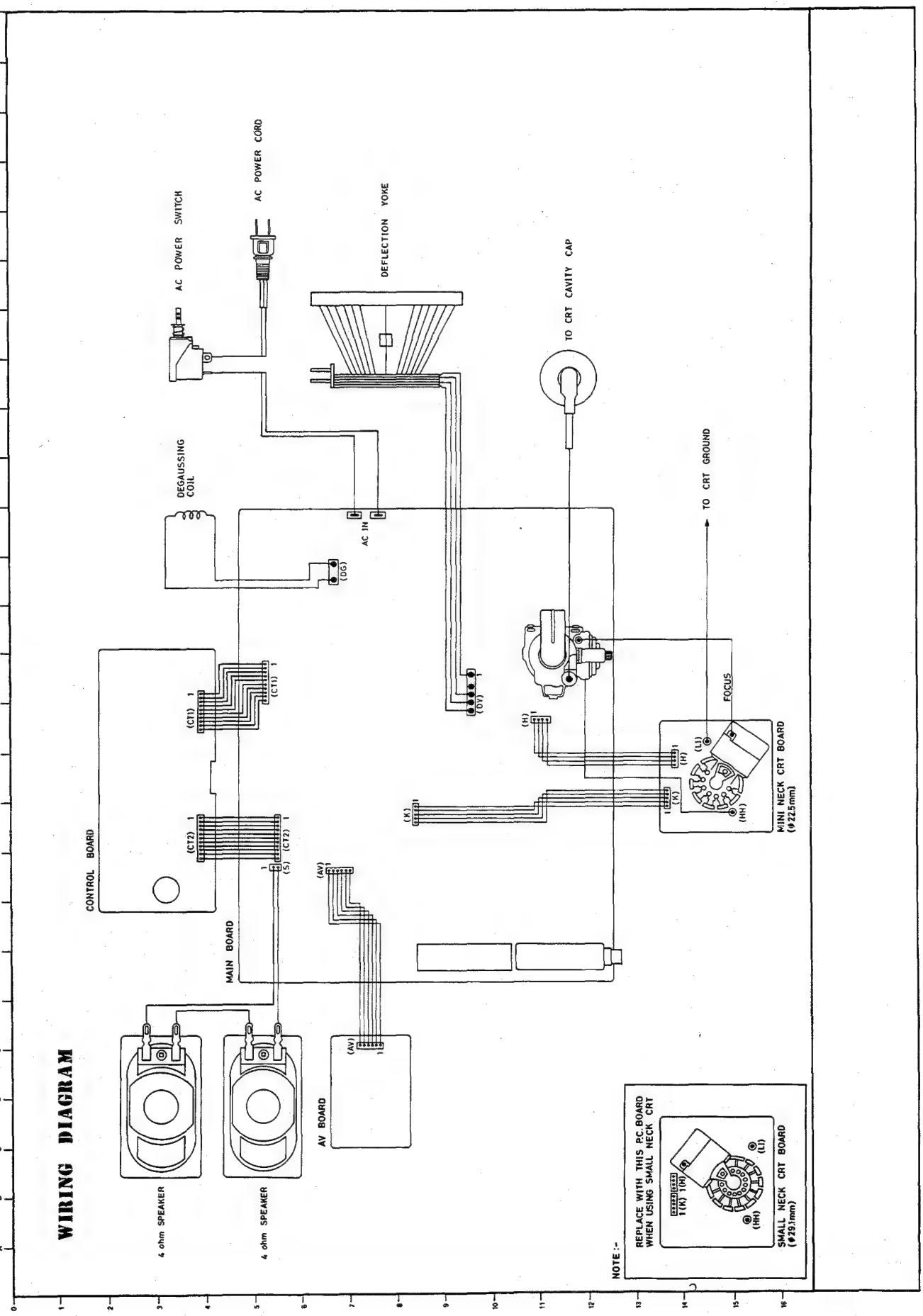


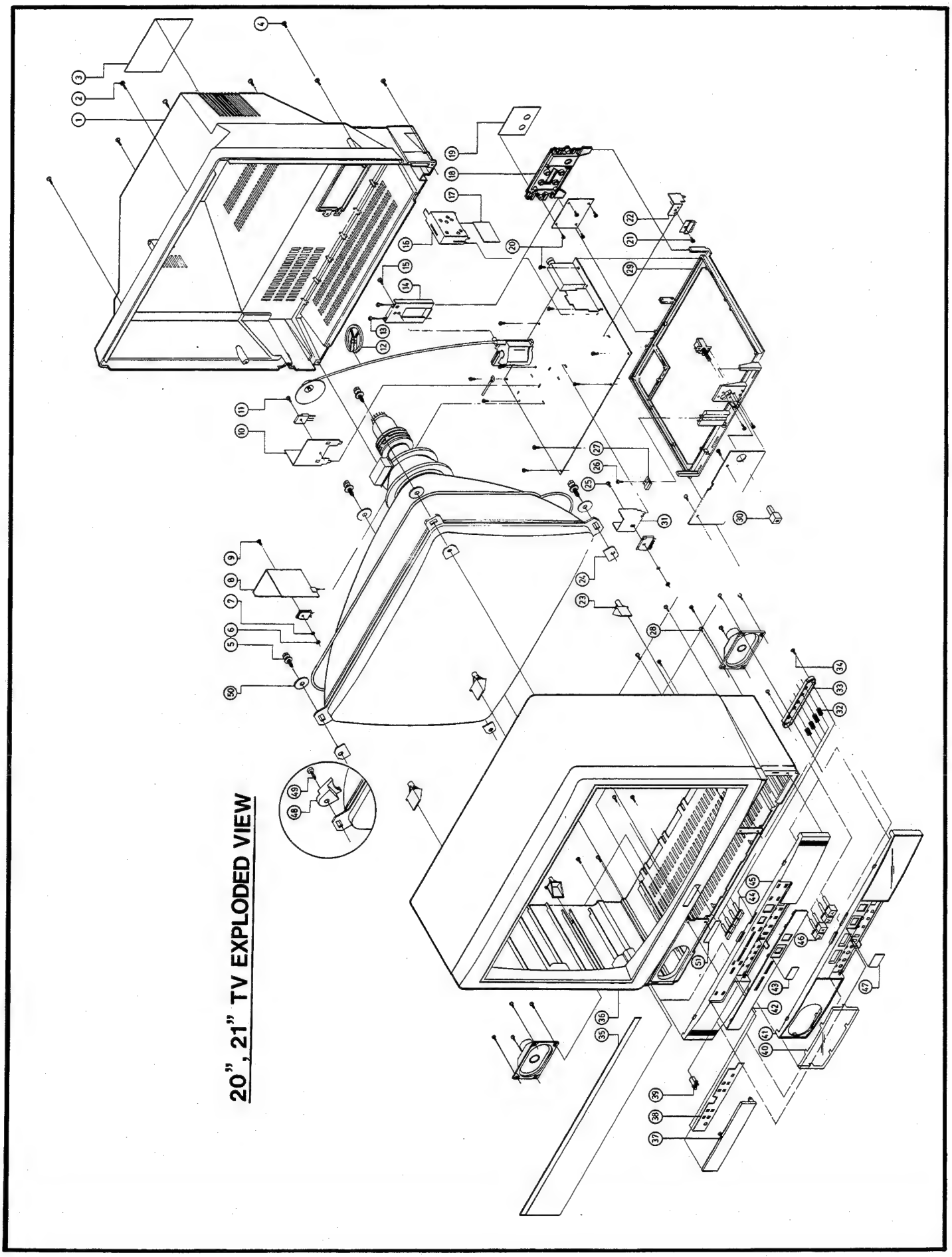
AV BOARD



MAIN BOARD




WIRING DIAGRAM
AC POWER SWITCH
AC POWER CORD
DEFLECTION YOKE
TO CRT CAVITY CAP
DEGAUSSING COIL
AC IN
(DG)
TO CRT GROUND
FOCUS
CONTROL BOARD
(CT1)
(CT2)
(DY)
(H)
(K)
(V)
(L)
(HH)
MINI NECK CRT BOARD (ø22.5mm)
MAIN BOARD
(AV)
(S)
AV BOARD
4 ohm SPEAKER
4 ohm SPEAKER
NOTE :-
REPLACE WITH THIS PC.BOARD WHEN USING SMALL NECK CRT
1(K) 1(H)
(HH)
(L)
SMALL NECK CRT BOARD (ø29.1mm)


20", 21" TV EXPLODED VIEW

20"/21" EXPLODED VIEW MECHANICAL PARTS LIST

Item	Part No.	Description	Unit	Remark
1.	602-5138010-00	Back Cabinet (Black)	1	
2.	702-2640160-00	Screw TBS 4 x 16	6	For Back Cab. to Front Cab.
3.	670-5180000-00	Model No. Plate	1	
4.	702-2340120-00	Screw TBS 4 x 12 -B1	1	For Back Cab. to Tuner Bracket
5.	707-1660300-00	Screw THES 6 x 30 (With Washer)	4	For 5382A Model only.
6.	718-0130200-00	Nut m3 T=2	2	For Heat Sink (6) - 1 pc. For Heat Slnk (2) - 1 pc.
7.	716-2305920-00	Spring LockWasher	2	For Heat Sink (6)- 1 pc. For Heat Sink (2) - 1 pc.
8.	736-4717060-00	Heat Sink (6)	1	
9.	701-2630120-00	Screw MBS 3 x 12	1	For Heat Sink (6)
10.	736-4717010-00	Heat Sink (1)	1	
11.	701-2630060-00	Screw MBS 3 x 6	3	For Heat Sink (1) - 1 pc. For Chassis to Power Switch (2)
12.	624-5138040-00	High V Cord Holder	1	
13.	702-2330080-00	Screw TBS 3 x 8 -B1	2	For FBT Bracket to Chassis.
14.	623-5138010-00	F.B.T. Bracket	1	
15.	702-2635120-00	Screw TBS 3.5 x 12	1	For FBT Bracket to FBT.
16.	749-5138010-00	IF Shield Box	1	
17.	669-5138010-00	PVC Plate	1	For IF Shield Box
18.	623-3738010-00	Tuner-Bracket	1	
19.	673-3738030-00	AV Plate (2)	1	
20.	702-2330080-00	Screw TBS 3 x 8 -B1	14	For Main PCB to Chassis (10) For AV PCB to Tuner Bracker (4)
21.	701-2630040-00	Screw MBS 3 x 4	2	For Heat Sink (3)
22.	736-4717030-00	Heat Sink (3)	1	
23.	632-4717010-00	Boss	4	
24.	903-3738010-00	Rubber Washer	4	
25.	701-2630100-00	Screw MBS 3 x 10	1	For Heat Sink
26.	702-2631020-00	Screw TBS 3 x 12	11	For Front Cabinet to Panfil (8) For Channel PCB to Front Cab. (2) For PCB Holder to Chassis (1)
27.	624-5138030-00	PCB holder	1	
28.	702-2330080-00	SCREW TBS 3 x 8 -B1	8	For Speaker to Front Cab. (8)
29.	603-5138010-00	Chassis	1	
30.	619-5138730-00	Power Knob	1	
31.	736-4717020-00	Heat Sink (2)	1	
32.	728-5138010-00	Knob Spring	4	
33.	624-5138010-00	Knob Holder	1	
34.	702-2330080-00	Screw TBS 3 x 8-B1	2	For Knob Holder to Front Cab. (2)
35.	679-5138010-00	Decorative Overlay	1	
36.	601-5138010-00	Front Cabinet	1	For 20" CTV use only
	601-5338010-00	Front Cabinet	1	For 21" CTV use only
37.	606-5138010-00	Front Door	1	
38.	673-5138070-00	Function Plate	1	
39.	503-5180010-00	Push Catch PR-4RK	1	
40.	722-5138010-00	Speaker Mesh	2	For 20" CTV use only
41.	608-1980010-00	Panel	1	For 20" CTV use only
42.	669-2082010-00	Channel/Volume Up/Down Plate	1	For 21" CTV use only
43.	604-5382010-00	Sensor Lens	1	For 21" CTV use only
44.	619-5382710-00	Push Knob	4	For 21" CTV use only
45.	608-5382010-00	Panel	1	For 21" CTV use only
46.	619-5138710-00	Push Knob	4	For 20" CTV use only
47.	604-5138020-00	Sensor Lens	1	For 20" CTV use only
48.	624-5138020-00	CRT Holder	4	For 20" CTV use only
49.	702-2660300-00	Screw TBS 6 x 30	4	For 20" CTV use only For CRT to Front Cabinet
50.	903-5382010-00	Rubber Ring (2)	4	For 21" CTV use only
51.	672-5138010-00	Brand Name Plate	1	

COMMON PARTS

PART NO.	DESCRIPTION	QTY	SYMBOLS
101-5008611-02	VIF/SIF IC TA8611	1	IC301
101-5208659-02	VIDEO-CHROMA DEFLECTION IC TA8659AN	1	IC801
101-5601013-17	AUDIO OUTPUT IC TDA1013B	1	IC370
101-5708403-02	VERTICAL DEFLECTION IC TA8403K	1	IC501
101-6034300-05	CPU M34300N4-012SP	1	IC1001
101-6307910-06	TUNER BAND SELECTOR LA7910	1	IC102
101-9158041-09	HYBRID SWITCHING REGULATOR STR58041	1	IC701
101-9300574-01	VOLTAGE STABILIZER UPC574J	1	IC101
102-1117805-02	REGULATOR UPC78L05J	1	IC1002
102-1117812-07	REGULATOR NJM78L12A	1	IC601
103-1002000-12	NPN TRANSISTOR BSX20	1	Q103
103-1190600-04	NPN TRANSISTOR 2SC1906	1	Q101
103-2181527-02	TRANSISTOR 2SC1815GR	22	Q801, Q802, Q301, Q370, Q201, Q202, Q203 Q1001, Q1002, Q1003, Q1004, Q1005, Q1006, Q1007, Q1010, Q1050, Q1051, Q901, Q902, Q903, Q904, Q905
103-3093418-15	TRANSISTOR 2SA934R	1	Q303
103-3227105-06	TRANSISTOR 2SC2271E	1	Q601
103-6030404-06	FET 2SK304(D)	1	Q102
103-8155500-02	HIGH VOLTAGE TRANSISTOR 2SD1555	1	Q602
103-8238315-02	TRANSISTOR 2SC2383(0)	3	Q701, Q702, Q704
103-8248200-02	TRANSISTOR 2SC2482	3	Q871, Q872, Q873
106-1002003-02	FAST RECOVERY RECTIFIER DIODE EUIZ 0.25A 200V	5	D705-D709
106-1002006-02	FAST RECOVERY RECTIFIER DIODE RHIZ 0.6A 200V	2	D607, D608
106-1002006-02	FAST RECOVERY RECTIFIER DIODE RHIZ 0.6A 200V	1	D712
106-1004003-02	FAST RECOVERY RECTIFIER DIODE EU1 0.25A 400V	1	D602
106-1004010-02	FAST RECOVERY RECTIFIER DIODE RU2 1A 400V	1	D711
106-1015005-02	FAST RECOVERY RECTIFIER DIODE ESIF 0.5A 1500V	1	D710
106-3001555-07	DIODE 1S1555	27	D604, D715, D801, D804, D805, D806, D1001, D1002, D1003, D1007, D1008, D1009, D1010, D1012, D1013, D1014, D1015, D1016, D1017, D1018, D1019, D1028, D1029, D1030, D1050. D901, D902
106-5005105-23	ZENER DIODE HZ5C-2 (5V-5.2V) 1/2W +-2.5%	1	D1051
106-5005605-23	ZENER DIODE HZ6A-3 (5.4V-5.7V) 1/2W +-2.5%	2	D1005
106-5005605-23	ZENER DIODE HZ6A-3 (5.4V-5.7V) 1/2W +-2.5%	2	D713
106-5007505-23	ZENER DIODE HZ7C-2 (7.3-7.7V) 1/2W +-2.5%	1	D803
106-5009105-23	ZENER DIODE HZ9C-1 (8.9V-9.3V) 1/2W +-2.5%	2	D802, D603
106-5012205-23	ZENER DIODE HZ12A-2 (11,9-12.4V) 1/2W +-2.5%	2	D303, D502
106-6014001-00	RECTIFIER DIODE IN4001 1A/50V	3	D501, D609, D101
106-6455397-00	RECTIFIER DIODE IN5397 (1.5A/600V)	4	D701, D702, D703, D704
108-0030010-50	M/O RESISTOR 1/2W +-5% 1 OHM	1	R609
108-0030100-50	M/O RESISTOR 1/2W +-5% 10 OHM	1	R502
108-0030180-50	M/O RESISTOR 1/2W +-5% 18 OHM	1	R708
108-0031820-50	M/O RESISTOR 1/2W +-5% 820 OHM	1	R710
108-0032270-50	M/O RESISTOR 1/2W +-5% 2.7K OHM	1	R607
108-0040004-50	M/O RESISTOR 1W +-5% 0.39 OHM	1	R704
108-0040820-50	M/O RESISTOR 1W +-5% 82 OHM	2	R608, R709

108-0042150-50	M/O RESISTOR 1W +-5% 1.5K OHM	2	R506, R508
108-0043220-50	M/O RESISTOR 1W +-5% 22K OHM	1	R362
108-0050150-50	M/O RESISTOR 2W +-5% 15 OHM	1	R624
108-0051470-50	M/O RESISTOR 2W +-5% 470 OHM	1	R862
108-0053150-50	M/O RESISTOR 2W +-5% 15K OHM	1	R871, R883, R889
108-0053270-50	M/O RESISTOR 2W +-5% 27K OHM	2	R706, R719
108-0062390-50	M/O RESISTOR 3W +-5% 3.9K OHM	1	R603
108-0063100-50	M/O RESISTOR 3W +-5% 10K OHM	1	R718
108-1020033-50	CARBON FILM RESISTOR 1/4W +-5% 3.3 OHM	1	R356
108-1020047-50	CARBON FILM RESISTOR 1/4W +-5% 4.7 OHM	1	R1071
108-1020100-50	CARBON FILM RESISTOR 1/4W +-5% 10 OHM	2	R1021, R930
108-1020270-50	CARBON FILM RESISTOR 1/4W +-5% 27 OHM	2	R109, R312
108-1020330-50	CARBON FILM RESISTOR 1/4W +-5% 33 OHM	2	R705, R711
108-1020390-50	CARBON FILM RESISTOR 1/4W +-5% 39 OHM	1	R605
108-1020470-50	CARBON FILM RESISTOR 1/4W +-5% 47 OHM	1	R308
108-1020750-50	CARBON FILM RESISTOR 1/4W +-5% 75 OHM	1	R310
108-1020820-50	CARBON FILM RESISTOR 1/4W +-5% 82 OHM	1	R101
108-1021100-50	CARBON FILM RESISTOR 1/4W +-5% 100 OHM	9	R602, R1001, R1002, R1046, R1047, R1048, R1049, R932, R1076
108-1021120-50	CARBON FILM RESISTOR 1/4W +-5% 120 OHM	2	R201, R901
108-1021180-50	CARBON FILM RESISTOR 1/4W +-5% 180 OHM	2	R845, R902
108-1021220-50	CARBON FILM RESISTOR 1/4W +-5% 220 OHM	11	R306, R821, R822, R823, R872, R884, R890, R113, R202, R818, R820
108-1021270-50	CARBON FILM RESISTOR 1/4W +-5% 270 OHM	1	R207
108-1021330-50	CARBON FILM RESISTOR 1/4W +-5% 330 OHM	2	R303, R1079
108-1021390-50	CARBON FILM RESISTOR 1/4W +-5% 390 OHM	3	R863, R838, R851
108-1021470-50	CARBON FILM RESISTOR 1/4W +-5% 470 OHM	6	R361, R601, R881, R893, R824, R906
108-1021560-50	CARBON FILM RESISTOR 1/4W +-5% 560 OHM	4	R1018, R1020, R1202, R1216
108-1021680-50	CARBON FILM RESISTOR 1/4W +-5% 680 OHM	5	R107, R302, R613, R1026, R903
108-1021820-50	CARBON FILM RESISTOR 1/4W +-5% 820 OHM	5	R847, R873, R874, R880, R891
108-1022100-50	CARBON FILM RESISTOR 1/4W +-5% 1K OHM	21	R804, R810, R826, R831, R836, R837, R846, R861, R819, R360, R108, R204, R208, R209, R1213, R1214, R1027, R1031, R1032, R1051, R908
108-1022120-50	CARBON FILM RESISTOR 1/4W +-5% 1.2K OHM	2	R359, R350
108-1022150-50	CARBON FILM RESISTOR 1/4W +-5% 1.5K OHM	4	R808, R856, R211, R712
108-1022180-50	CARBON FILM RESISTOR 1/4W +-5% 1.8K OHM	1	R123
108-1022220-50	CARBON FILM RESISTOR 1/4W +-5% 2.2K OHM	5	R850, R1057, R1058, R1010, R917
108-1022270-50	CARBON FILM RESISTOR 1/4W +-5% 2.7K OHM	1	R811
108-1022300-50	CARBON FILM RESISTOR 1/4W +-5% 3K OHM	1	R825
108-1022330-50	CARBON FILM RESISTOR 1/4W +-5% 3.3K OHM	6	R840, R370, R206, R304, R1007, R1056
108-1022390-50	CARBON FILM RESISTOR 1/4W +-5% 3.9K OHM	3	R817, R301, R1072
108-1022470-50	CARBON FILM RESISTOR 1/4W +-5% 4.7K OHM	4	R203, R114, R905, R916
108-1022510-50	CARBON FILM RESISTOR 1/4W +-5% 5.1K OHM	1	R933
108-1022560-50	CARBON FILM RESISTOR 1/4W +-5% 5.6K OHM	5	R839, R357, R106, R309, R1210
108-1022680-50	CARBON FILM RESISTOR 1/4W +-5% 6.8K OHM	2	R617, R1009
108-1022820-50	CARBON FILM RESISTOR 1/4W +-5% 8.2K OHM	2	R1201, R1215
108-1023100-50	CARBON FILM RESISTOR 1/4W +-5% 10K OHM	22	RR118, R119, R121, R611, R612, R614, R854, R803, R860, R371, R353, R372, R1207, R126, R1003, R1006, R1008, R1030, R1053, R703, R349, R931
108-1023120-50	CARBON FILM RESISTOR 1/4W +-5% 12K OHM	2	R110, R615

108-1023150-50	CARBON FILM RESISTOR 1/4W +-5% 15K OHM	2	R117,R627
108-1023160-50	CARBON FILM RESISTOR 1/4W +-5% 16K OHM	2	R1012, R1209
108-1023180-50	CARBON FILM RESISTOR 1/4W +-5% 18K OHM	9	R828, R830, R311, R805, R1074, R205, R1016, R1011, R904
108-1023220-50	CARBON FILM RESISTOR 1/4W +-5% 22K OHM	17	R122, R833, R852, R1004, R1005, R1034, R1035, R1036, R1037, R1038, R1039, R1040, R1041, R1042, R1043, R1044, R1060
108-1023270-50	CARBON FILM RESISTOR 1/4W +-5% 27K OHM	1	R814
108-1023330-50	CARBON FILM RESISTOR 1/4W +-5% 33K OHM	7	R858, R115, R116, R1019, R907, R915, R919
108-1023470-50	CARBON FILM RESISTOR 1/4W +-5% 47K OHM	8	RR801, R802, R855, R857, R313, R1013, R1014, R1015
108-1023510-50	CARBON FILM RESISTOR 1/4W +-5% 51K OHM	2	R918, R929
108-1023560-50	CARBON FILM RESISTOR 1/4W +-5% 56K OHM	3	R806, R859, R1023
108-1023820-50	CARBON FILM RESISTOR 1/4W +-5% 82K OHM	1	R210
108-1024100-50	CARBON FILM RESISTOR 1/4W +-5% 100K OHM	6	R823, R127, R128, R352, R124, R1050
108-1024120-50	CARBON FILM RESISTOR 1/4W +-5% 120K OHM	1	R1022
108-1024220-50	CARBON FILM RESISTOR 1/4W +-5% 220K OHM	2	R355, R827
108-1024330-50	CARBON FILM RESISTOR 1/4W +-5% 330K OHM	1	R848
108-1024470-50	CARBON FILM RESISTOR 1/4W +-5% 470K OHM	2	R111, R835
108-1024510-50	CARBON FILM RESISTOR 1/4W +-5% 510K OHM	1	R1211
108-1024560-50	CARBON FILM RESISTOR 1/4W +-5% 560K OHM	1	R112
108-1025100-50	CARBON FILM RESISTOR 1/4W +-5% 1M OHM	1	R125
108-1030033-50	CARBON FILM RESISTOR 1/2W +-5% 3.3 OHM	1	R834
108-1032120-50	CARBON FILM RESISTOR 1/2W +-5% 1.2K OHM	1	R606
108-1032470-50	CARBON FILM RESISTOR 1/2W +-5% 4.7K OHM	1	R604
108-2032270-67	CARBON COMPOSITION RESISTOR 1/2W +-5% 2.7K OHM	3	R876, R877, R878
108-2036100-67	CARBON COMPOSITION RESISTOR 1/2W +-5% 10M OHM	1	R715
108-3010039-53	CEMENT WIRE WOUND RES. PRVA TYPE 3.9 OHM 5W +-5%	1	R701
108-5044220-54	SPECIAL POWER RESISTOR 1W +-5% 220K SPRIL15J	1	R702
108-5044390-54	SPECIAL POWER RESISTOR 1W +-5% 390K SPRIL15J	1	R707
108-7218002-01	POSITIVE THERMISTOR ERP-Z5BON180A, CASE TYPE	1	PTH701
108-8030047-54	FUSING RESISTOR 1/2W +-5% 4.7 OHM	1	R610
108-8040022-54	FUSING RESISTOR 1W +-5% 2.2 OHM	1	R716
109-5532310-03	ROTARY V.R. 10KB VERT. MOUNT	1	VR1073
111-1022150-03	SEMI-FIXED RESISTOR 500 OHM B VERT. MOUNT	2	VR882, VR894
111-1022250-03	SEMI-FIXED RESISTOR 5K OHM VERT. DIA. 8MM	3	VR875, VR879, VR892
111-2022110-01	SEMI-FIXED RESISTOR 100 OHM B HORI. TYPE	1	VR616
111-2022110-01	SEMI-FIXED RESISTOR 1KB HORI. TYPE	1	VR849
111-2022220-01	SEMI-FIXED RESISTOR 2KB HORI.	1	VR1001
111-2022310-01	SEMI-FIXED RESISTOR 10K(B) HORI.	2	VR853, VR307
111-2022350-01	SEMI-FIXED RESISTOR 50KB HORI.	1	VR816
111-2022350-01	SEMI-FIXED RESISTOR 50KB HORI.	1	VR829
112-1140150-91	CERAMIC CAP. 15PF +-5% 50V (NPO)	1	C1011
112-1140300-91	CERAMIC CAP. 30PF +-5% 50V (NPO)	2	C1013, C1014
112-1140390-91	CERAMIC CAP. 39PF +-5% 50V (NPO)	1	C1012
112-1140470-91	CERAMIC CAP. 47PF +-5% 50V (NPO)	2	C201, C202
112-1150100-71	CERAMIC CAP. 10PF +-10% 50V	3	C207, C304, C1214
112-1150150-71	CERAMIC CAP. 15PF +-10% 50V	1	C106
112-1150200-71	CERAMIC CAP. 20PF +-10% 50V	2	C823, C1205
112-1150270-71	CERAMIC CAP. 27PF +-10% 50V	1	C1003
112-1150330-71	CERAMIC CAP. 33PF +-10% 50V	1	C822
112-1150470-71	CERAMIC CAP. 47PF +-10% 50V	2	C126, C1228

112-1150510-71	CERAMIC CAP. 51PF +-10% 50V	1	C204
112-1150560-71	CERAMIC CAP. 56PF +-10% 50V	2	C125, C127
112-1150680-71	CERAMIC CAP. 68PF +-10% 50V	4	C1216, C1217, C1219, C1220
112-1151100-71	CERAMIC CAP. 100PF +-10% 50V	12	C124, C1206, C1211, C118, CC1001, C1002, C1015, C1017, C1018, C1019, C1024, C119
112-1151120-71	CERAMIC CAP. 120PF +-10% 50V	1	C601
112-1151150-71	CERAMIC CAP. 150PF +-10% 50V	3	C505, C1221, C1223
112-1151180-71	CERAMIC CAP. 180PF +-10% 50V	2	C1201, C1222
112-1151220-71	CERAMIC CAP. 220PF +-10% 50V	3	C208, C616, C1026
112-1151330-71	CERAMIC CAP. 330PF +-10% 50V	1	C873
112-1151390-71	CERAMIC CAP. 390PF +-10% 50V	2	C871, C872
112-1151470-71	CERAMIC CAP. 470PF +-10% 50V	2	C1210, C904
112-1151680-71	CERAMIC CAP. 680PF +-10% 50V	1	C618
112-1151820-71	CERAMIC CAP. 820PF +-10% 50V	1	C309
112-1551220-71	CERAMIC CAP. 220PF +-10% 500V	2	C602, C608
112-2162100-01	CERAMIC CAP. 0.001UF +-20% 50V	5	C503, C818, C840, C302, C311
112-2163100-01	CERAMIC CAP. 0.01UF +-20% 50V	25	C605, C803, C809, C815, C832, C833, C841, C829, C1010, C1227, C105, C107, C108, C109, C128, C301, C305, C306, C308, C313, C314, C1212, C1224, C1071, C1072
112-2172100-01	CERAMIC CAP. 0.001UF +80-20% 50V	3	C1023, C1025, C1027
112-2173100-01	CERAMIC CAP. 0.01UF +80-20% 50V	2	C203, C206
112-2562100-01	CERAMIC CAP. 0.001UF +-20% 500V	6	C603, C611, C622, C623, C711, C720
112-2563100-01	CERAMIC CAP. 0.01UF +-20% 500V	5	C701, C702, C703, C704, C719
112-2851470-03	HIGH VOLTAGE CERAMIC CAP. 470PF +-10% 1KV	1	C707
112-2952470-03	HIGH VOLTAGE CERAMIC CAP. 0.0047UF +-10% 2KV	1	C877
112-4362100-63	CERAMIC CAP. VDE/UL RECOGNIZED 0.001UF +-20% 400VAC	3	C722, C7005, C7006
113-1020722-20	ELEC. CAP. 220UF/10V +-20%	1	C901
113-1030710-20	ELEC. CAP. 100UF/16V +-20%	2	C836, C1020
113-1030722-20	ELEC. CAP. 200UF/16V +-20%	1	C810
113-1030747-20	ELEC. CAP. 470UF/16V +-20%	1	C617
113-1040610-20	ELEC. CAP. 10UF/25V +-20%	3	C351, C808, C814
113-1040622-20	ELEC. CAP. 22UF/25V +-20%	3	C801, C834, C835
113-1040647-20	ELEC. CAP. 47UF/25V +-20%	7	C317, C205, C303, C307, C902, C912, C913
113-1040722-20	ELEC. CAP. 220UF/25V +-20%	1	C620
113-1040747-20	ELEC. CAP. 470UF/25V +-20%	1	C721
113-1040810-20	ELEC. CAP. 1000UF/25V +-20%	2	C367, C821
113-1060710-20	ELEC. CAP. 100UF/35V +-20%	1	C501
113-1060722-20	ELEC. CAP. 220UF/35V +-20%	3	C358, C502, C621
113-1080410-20	ELEC. CAP. 0.1UF/50V +-20%	3	C111, C115 C116
113-1080447-20	ELEC. CAP. 0.47UF/50V +-20%	7	C624, C824, C831, C837, C838, C839, C1204
113-1080510-20	ELEC. CAP. 1UF/50V +-20%	4	C110, C112, C114, C819
113-1080510-20	ELEC. CAP. 1UF/50V +-20%	3	C355, C1005, C1050
113-1080522-20	ELEC. CAP. 2.2UF/50V +-20%	5	C113, C117, C820, C359, C1226
113-1080533-20	ELEC. CAP. 3.3UF/50V +-20%	1	C816
113-1080547-20	ELEC. CAP. 4.7UF/50V +-20%	3	C372, C373, C911
113-1080622-20	ELEC. CAP. 22UF/50V +-20%	1	C120
113-1089510-20	NON-POLAR ELEC. CAP. 1UF/50V +-20%	2	C826, C905
113-1094633-21	ELEC. CAP. 33UF/63V +-20% 105 DEG. CENT.	1	C708
113-1140610-21	ELEC. CAP. 10UF/160V +-20%	1	C706

113-1140710-21	ELEC. CAP. 100UF/160V +-20%	1	C718
113-1170547-20	ELEC. CAP. 4.7UF250V +-20%	1	C612
113-3200710-21	SNAP-IN TYPE ELECT. CAP. 100UF/400V +-20%	1	C705
114-2102210-50	MYLAR CAP. 0.001UF +-10% 100V	4	C614, C825, C209, C210
114-2102215-50	MYLAR CAP. 0.0015UF +-10% 100V	1	C374
114-2102222-50	MYLAR CAP. 0.0022UF +-10% 100V	1	C504
114-2102247-50	MYLAR CAP. 0.0047UF +-10% 100V	1	C828
114-2102310-50	MYLAR CAP. 0.01UF +-10% 100V	2	C827, C1225
114-2102322-50	MYLAR CAP. 0.022UF +-10% 100V	2	C817, C1209
114-2102327-50	MYLAR CAP. 0.027UF +-10% 100V	1	C1213
114-2102333-50	MYLAR CAP. 0.033UF +-10% 100V	1	C615
114-2102347-50	MYLAR CAP. 0.047UF +-10% 100V	1	C709
114-2102368-50	MYLAR CAP. 0.033UF +-10% 100V	1	C310
114-2102410-50	MYLAR CAP. 0.1UF +-10%	10	C121, C122, C123, C506, C806, C807, C1207, C356, C1202, C1203
114-2102410-50	MYLAR CAP. 0.1UF +-10% 100v	1	C1004
114-3104422-51	METALLIZED POLYESTER FILM CAP. 0.22UF +-10% 250V	1	C625
114-3105347-51	METALLIZED POLYESTER FILM CAP. 0.047UF +-10% 400V	2	C604, C613
114-4108347-51	METALLIZED POLYPROPYLENE CAP. 0.047UF 800V +-10%	1	C710
114-5100447-60	TANTALUM CAP. 0.47UF 35V +-20%	1	C315
114-8101410-51	MYLAR CAP. 0.1UF +-10% 50V MINI SIZE	2	C370, C316
114-9134422-64	POLYPROPYLENE CAP. 0.22UF 275V +-20% UL/VDE APPD.	1	C7002
114-9134447-64	POLYPROPYLENE CAP. 0.47UF 275V +-20% UL/VDE APPD.	1	C7001
118-3514047-03	SOUND IFT COIL 804-047	1	T303
118-4514025-03	VIDEO IFT COIL 804-025	2	T301, T302
118-5314027-03	IFT COIL (BELL FILTER) R804-027	1	T1202
118-5314048-03	CHROMA BAND PASS 804-048	1	T802
118-6314023-03	MATCHING COIL (DL) 804-023	1	T801
118-6514053-03	MATCHING COIL (SAWF) 804-053	1	T103
118-7514024-03	IDENT & DEMO COIL R804-024	3	T1201, T1203, T1204
119-1500012-01	FIXED COIL 1.2UH	1	L101
119-1500082-11	FIXED COIL 8.2UH	2	L202, L205
119-1500120-11	FIXED COIL 12UH	2	L803, L805
119-1500150-11	FIXED COIL 15UH	2	L201, L203
119-1500390-11	FIXED COIL 39UH	2	L802, L1201
119-1501220-11	FIXED COIL 220UH	1	L204
119-1501220-21	FIXED COIL 220UH	1	L871
119-1530033-21	FIXED COIL 3.3UH	2	L351, L301
119-1540150-41	FIXED COIL 15UH (460MA)	1	L352
119-1612330-01	FIXED COIL RADIAL 3.3MH 100MA	1	L602
120-1024433-06	CRYSTAL 4.433618MHZ (HC-18/U)	1	X801
121-0013550-00	FERRITE BEAD #31061 3.5X5X1.3MM	10	FOR D602, D607, D608, D711, D712
121-0413560-01	FERRITE BEAD	4	FB601, FB602, FB603, FB701
122-4191005-02	DRIVE X'FMR R1005	1	T601
122-6019086-00	SWITCHING TRANSFORMER SS-9086	1	T701
124-1052114-01	LED DIA. 5MM RED	1	D1071
125-3252037-05	2P 2 WIRES HOUSING #22 4/TER L1=520MM, L2=200MM	1	FOR SPEAKER
125-3430036-05	4P 3 WIRES HOUSING #24 FLAT CABLE L=300MM	1	(H)
125-3536019-05	5P 5 WIRES HOUSING #26 FLAT CABLE L=360MM	1	(K)
125-3624011-05	6P 6 WIRES HOUSING AWG#26 FLAT CABLE L=240MM	1	(AV)
127-3201055-01	CERAMIC FILTER SFE-5.5MB, 5.5MHz	2	CF201, CF202
127-3201065-01	CERAMIC FILTER SFE6.5MB, 6.5MHz	1	CF203
127-4201055-01	CERAMIC TRAP TPS-5.5MB, 5.5MHz	1	CF204
127-4201065-01	CERAMIC TRAP TPS6.5MB, 6.5MHz	1	CF205

127-5101503-01	CERAMIC RESONATOR CSB503F30, 503KHz	1	CF801
127-5201010-01	CERAMIC RESONATOR (CSB1000J/CSB1000K),1MHz	1	CF206
127-5201040-01	CERAMIC RESONATOR CSA400MG, 4MHz	1	X'TAL 1001
127-7151057-02	SAW FILTER F1057	1	SF101
129-0102206-05	SLIDE SWITCH 2P2T SS-22402-G9	1	S801
129-0702101-01	POWER SWITCH ESB-70437S	1	
129-1101103-01	TACT SWITCH EVQ-PAC 07K	4	S1001, S1002, S1003, S1004
129-1101104-07	PUSH SWITCH SKECAA080A	9	S1006, S1007, S1008, S1009, S1010, S1011, S1012, S1013, S1014
131-0601001-05	RCA JACK TRC007, DIA. 8.3MM	2	
134-1333003-01	MINIATURE EARPHONE JACK HSJ0842-01-010, DIA. 3.5MM	1	
136-2420509-01	SPK 4 OHM 2W 2"X3-1/2" C091A06H0052	2	
137-2102200-01	FUSE 2A/250V DIA. 5X20MM TIME LAG VDE RECONGNIZED	1	F701
139-2220080-07	AC POWER CORD 8FT 2.5A/250VAC MULTI STD RECONGNIZED	1	
142-4601014-00	10 PIN FLAT CABLE AWG#26 L=140MM UL TYPE	2	(CT1), (CT2)
153-1040334-02	Y DELAY LINE ELT-10Z334N	1	DL801
153-2640019-04	1H DELAY LINE MS-19P	1	DL802
154-2241202-01	U/V TUNER UVE33-W14	1	
155-0216215-01	PHOTO COUPLER TLP621GB	2	IC702, IC703
156-0110120-02	LINEARITY COIL ELH-5L120	1	L601
156-0220120-20	DEGAUSSING COIL XC-HW51A	1	
156-0310050-13	LINE FILTER LF-50-13	1	L7001
157-0300707-05	IR PREAMPLIFIER HC707	1	

PARTS FOR CRT A48 JAN90X05 (VW)

PART NO.	DESCRIPTION	QTY	SYMBOLS
108-0040027-50	M/O RESISTOR 1W +-5% 2.7 OHM	1	R618
108-0042820-50	M/O RESISTOR 1W +-5% 8.2K OHM	1	R120
108-1023330-50	CARBON FILM RESISTOR 1/4W +-5% 33k OHM	1	R717
108-1034130-50	CARBON FILM RESISTOR 1/2W +-5% 130K OHM	1	R625
108-8040010-54	FUSING RESISTOR 1W +-5% 1 OHM	1	R623
108-8040022-54	FUSING RESISTOR 1W +-5% 2.2 OHM	1	R622
114-3104439-51	METALLIZED POLYESTER FILM CAP. 0.39UF +-10% 250V	1	C607
114-4109233-46	POLYPROPYLENE FILM CAP. 3300PF 1.6KV +-5%	1	C609
114-4109247-46	POLYPROPYLENE FILM CAP. 4700PF 1.6KV +-5%	1	C610
122-5040371-04	FLYBACK TRANSFORMER KFS-60371B	1	T602
131-0752203-01	CRT SOCKET CVT3308-0901	1	
150-2020610-00	CRT BOARD (70X70)MM (200890) 94VO 22.5MM	1	
152-6511110-01	20" CRT A48JAN90X05(VW)	1	
156-0649359-07	GROUNDING WIRE 20" #49359	1	

PARTS FOR CRT 51GGB95X-TC

PART NO.	DESCRIPTION	QTY	SYMBOLS
108-0050022-50	M/O RESISTOR 2W +-5% 2.2 OHM	1	R618
108-0053100-50	M/O RESISTOR 2W +-5% 10K OHM	1	R120
108-1024100-50	CARBON FILM RESISTOR 1/4W +-5% 100K OHM	1	R717
108-1034150-50	CARBON FILM RESISTOR 1/2W +-5% 150K OHM	1	R625
108-8040033-54	FUSING RESISTOR 1W +-5% 3.3	1	R623
108-8040056-54	FUSING RESISTOR 1W +-5% 5.6	1	R622

114-3104447-51	METALLIZED POLYESTER FILM CAP. 0.47UF +-10% 250V	1	C607
114-4109239-46	POLYPROPYLENE FILM CAP. 3900PF 1.6KV +-5%	1	C610
114-4109247-46	POLYPROPYLENE FILM CAP. 4700PF 1.6KV +-5%	1	C609
122-5040455-04	FLYBACK TRANSFORMER KFS-60455E	1	T602
131-0762201-01	CRT SOCKET CVT3210-0402	1	
150-0202610-00	CRT BOARD (200890)	1	
152-6512111-02	20" CRT 5IGGB95X-TC (YOKE DSE-1992BL)	1	
156-0649359-07	GROUNDING WIRE 20" #49359	1	

PARTS FOR CRT A51JAR90X90 (VMW)/(VW)

PART NO.	DESCRIPTION	QTY	SYMBOLS
108-0040056-50	M/O RESISTOR 1W +-5% 5.6 OHM	1	R618
108-0042820-50	M/O RESISTOR 1W +-5% 8.2K OHM	1	R120
108-1023270-50	CARBON FILM RESISTOR 1/4W +-5% 27K OHM	1	R717
108-1034120-50	CARBON FILM RESISTOR 1/2W +-5% 120K OHM	1	R625
108-8040010-54	FUSING RESISTOR 1W +-5% 1OHM	1	R623
108-8040056-54	FUSING RESISTOR 1W +-5% 5.6 OHM	1	R622
114-3104439-51	METALLIZED POLYESTER FILM CAP. 0.39UF +-10% 250V	1	C607
114-4109247-46	POLYPROPYLENE FILM CAP. 4700PF 1.6KV +-5%	2	C609, C610
122-5030581-04	FLYBACK TRANSFORMER KFS-60581B	1	T602
131-0752203-01	CRT SOCKET CVT3308-0901	1	
150-2020610-00	CRT BOARD (200890)	1	
152-7511111-01	21" CRT A5IJAR90X90	1	
156-0649362-07	GROUNDING WIRE 21" #49362B	1	

PARTS FOR HANDSET

PART NO.	DESCRIPTION	QTY	SYMBOLS
101-6755601-05	REMOTE CONTROL TRANSMITTER IC M50560-001P	1	IC1301
103-3805004-00	TRANSISTOR 8050D	2	Q1301, Q1302
106-3001555-07	SWITCHING DIODE IS1555	7	D1301-D1306, D1309
107-0600115-04	INFRARED LED TLN-115A	1	D1307
108-1020020-50	CARBON FILM RESISTOR 1/4W +-5% 2 OHM	1	R1303
108-1021220-50	CARBON FILM RESISTOR 1/4W +-5% 220 OHM	1	R1304
108-1021330-50	CARBON FILM RESISTOR 1/4W +-5% 330 OHM	1	R1302
108-1022560-50	CARBON FILM RESISTOR 1/4W +-5% 5.6K OHM	1	R1301
112-1151220-71	CERAMIC CAP. 220PF +-10% 50V (SL)	2	C1302, C1303
113-1020710-20	ELECT. CAP. 100UF/10V +-20%	1	C1301
124-1032124-01	LED DIA. 3MM RED	1	D1308
127-5100455-01	CERAMIC RESONATOR CSB455EB 455KHZ	1	X1301
150-2060504-00	HANDSET BOARD	1	
601-0050010-00	TOP CABINET	1	
602-0050010-00	BOTTOM CABINET	1	
604-0050010-00	TOP LENS	1	
605-0050010-00	BATTERY DOOR	1	
673-0050010-02	FUNCTION PLATE (1/2) (26 KEYS) FOR NEW PAL	1	
702-2620060-00	SCREW TBS 2 X 6	2	FOR TOP CAB. TO BACK CABINET
725-0050410-00	BATTERY CONTACT SPRING (-VE) (Ni PLATED)	1	
725-0050420-00	BATTERY CONTACT SPRING (+VE) (Ni PLATED)	1	
725-1010710-00	BATTERY CONTACT SPRING (S) (STAINLESS STEEL)	1	
913-0050010-00	RUBBER CONTACT (26 KEYS)	1	